VEECO INSTRUMENTS INC
Form S-4
August 12, 2002

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As filed with the Securities and Exchange Commission on August 12, 2002.

Registration No. 333-

SECURITIES AND EXCHANGE COMMISSION

Washington, D.C. 20549

FORM S-4

REGISTRATION STATEMENT
UNDER
THE SECURITIES ACT OF 1933

VEECO INSTRUMENTS INC.

(Exact Name of Registrant as Specified in its Charter)

Delaware	**3559**	**11-2989601**
(State or Other Jurisdiction of Incorporation or Organization)	(Primary Standard Industrial Classification Code Number)	(I.R.S. Employer Identification Number)

100 Sunnyside Boulevard
Woodbury, NY 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
100 Sunnyside Boulevard
Woodbury, NY 11797
(516) 677-0200 (516) 677-9126

(Name, Address, Including Zip Code, and Telephone Number, Including Area Code, of Agent for Service)

Copies to:

Rory A. Greiss, Esq.
Kaye Scholer LLP
425 Park Avenue
New York, New York 10022-3598
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Larry W. Sonsini, Esq.
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650 Page Mill Road
Palo Alto, CA 94304
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Approximate date of commencement of proposed sale to the public: At the effective time of the merger of Venice Acquisition Corp., a wholly-owned subsidiary of the Registrant, with and into FEI Company, which shall occur as soon as practicable after the effective date of this Registration Statement and the satisfaction or waiver of all conditions to the closing of such merger.

If the securities being registered on this Form are being offered in connection with the formation of a holding company and there is compliance with General Instruction G, check the following box. / /

If this Form is filed to register additional securities for an offering pursuant to Rule 462(b) 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 this Form is a post-effective amendment filed pursuant to Rule 462(d) 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. / /

CALCULATION OF REGISTRATION FEE

Title of each class of Securities to be registered	Amount to be registered(1)	Proposed maximum offering price per share	Proposed maximum aggregate offering price	Amount of registration fee
Common Stock, par value $0.01 per share	50,000,000 shares	$12.78(2)	$639,000,000(2)	$58,788

(1) Based upon the maximum number of shares of Veeco Instruments Inc. common stock issuable, or to be reserved for issuance in the merger.

(2) Estimated solely for the purpose of determining the registration fee in accordance with Rule 457(f) under the Securities Act of 1933, as amended, based on the average of the high and low prices for the shares of the Registrant as reported on The Nasdaq National Market on August 5, 2002.

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 COMMISSION, ACTING PURSUANT TO SAID SECTION 8(A), MAY DETERMINE.

Subject to Completion, dated August 12, 2002

JOINT PROXY STATEMENT/PROSPECTUS

Dear Holders of Veeco and FEI Common Stock:

We are writing to you today about the proposed merger of Veeco Instruments Inc. and FEI Company. We are very excited about the opportunities we envision for the combined company. This merger will create a combined company that is a leader in metrology and process equipment solutions for the semiconductor, data storage, telecommunications/wireless and scientific research markets.

Upon completion of the merger, each outstanding share of FEI common stock will be exchanged for 1.355 shares of Veeco common stock. Veeco expects to issue approximately 44,000,000 shares of its common stock in the merger to FEI shareholders (and up to approximately 10,000,000 Veeco shares which may be issued in respect of FEI's options and other rights, and convertible notes). Upon completion of the merger, former FEI shareholders will own approximately 60% of Veeco's outstanding common stock (not including shares issuable in respect of options, convertible debt and other convertible securities and rights). Veeco common stock is quoted on The Nasdaq National Market under the symbol "VECO". As of August 8, 2002, the closing price of Veeco's common stock on The Nasdaq National Market was $13.98 per share.

Attached are notices of special meetings of holders of Veeco and FEI common stock and a joint proxy statement/prospectus relating to the merger. The accompanying joint proxy statement/prospectus is the proxy statement for FEI's special meeting of shareholders to vote on the

merger and for Veeco's special meeting of stockholders to vote on the issuance of Veeco common stock in the merger and certain amendments to Veeco's Amended and Restated Certificate of Incorporation. It also is the prospectus of Veeco related to the issuance of Veeco common stock to the FEI shareholders in the merger.

Completion of the merger requires the FEI shareholders to approve the merger and the Veeco stockholders to approve the issuance of Veeco common stock in the merger and approve the amendment to Veeco's Amended and Restated Certificate of Incorporation to increase the authorized shares of Veeco's common stock so that there will be sufficient authorized shares for issuance in the merger.

The merger and an investment in Veeco common stock involve risks. You should carefully consider the discussion in the section titled "Risk Factors" beginning on page 14 of the joint proxy statement/prospectus.

After careful consideration, the Veeco and FEI boards of directors unanimously recommend the merger. Your vote is important. Please vote "**FOR**" your company's proposal(s) by signing and dating the enclosed proxy card and returning it in the pre-addressed envelope provided. If you are an FEI shareholder and you do not return your proxy card or vote in person at the FEI meeting of shareholders, the effect will be the same as a vote against the merger. If you are a Veeco stockholder and you do not return your proxy card or vote in person at the Veeco meeting of stockholders in favor of the proposed amendments to Veeco's Amended and Restated Certificate of Incorporation, the effect will be the same as a vote against these proposed amendments.

We appreciate your consideration of these matters.

Edward H. Braun
Chairman, Chief Executive Officer and President
Veeco Instruments Inc.

Vahé A. Sarkissian
Chairman, President and Chief Executive Officer
FEI Company

Neither the Securities and Exchange Commission nor any state securities commission has approved or disapproved of this transaction or the securities of Veeco to be issued in the merger, or determined if this joint proxy statement/prospectus is accurate or adequate. Any representation to the contrary is a criminal offense.

This joint proxy statement/prospectus is dated , 2002, and was first mailed to holders of Veeco and FEI common stock on or about , 2002.

The information in this joint proxy statement/prospectus is not complete and may be changed. We may not sell these securities until the registration statement filed with the Securities and Exchange Commission is effective. This prospectus is not an offer to sell these securities and it is not soliciting an offer to buy these securities in any state where the offer or sale is not permitted.

VEECO INSTRUMENTS INC.

100 Sunnyside Boulevard
Woodbury, NY 11797
(516) 677-0200

NOTICE OF SPECIAL MEETING OF STOCKHOLDERS
To be held on , 2002

We will hold a special meeting of stockholders of Veeco Instruments Inc. at 9:30 a.m. (New York City time), on , , 2002, at the Corporate Center, 395 North Service Road, Melville, New York to consider and vote upon the following proposals:

1. To approve the issuance of Veeco common stock, $0.01 par value per share, under an Agreement and Plan of Merger, dated as of July 11, 2002, among Veeco, FEI Company and Venice Acquisition Corp., a wholly-owned subsidiary of Veeco, under which Venice Acquisition Corp. will be merged into FEI and FEI will become a wholly-owned subsidiary of Veeco;

2. To amend Veeco's Amended and Restated Certificate of Incorporation to increase the authorized shares of Veeco's common stock, $0.01 par value per share, from 60,000,000 shares to 175,000,000 shares;

3.

To amend Veeco's Amended and Restated Certificate of Incorporation to change the name of Veeco Instruments Inc. to Veeco FEI Inc.; and

4. To transact any other business that may properly come before the special meeting or any adjournment or postponement of the special meeting.

Your Board of Directors unanimously has determined that the issuance of Veeco common stock to FEI shareholders in the Veeco FEI merger is advisable, consistent with and in furtherance of the long-term business strategy of Veeco and fair to, and in the best interests of, Veeco and you, and recommends that you vote to approve the issuance of Veeco common stock in connection with the merger. Your board of directors has also unanimously determined that the proposed amendments to Veeco's Amended and Restated Certificate of Incorporation are advisable and recommends that you vote to approve them.

We describe the proposed merger more fully in the accompanying joint proxy statement/prospectus, which we urge you to read carefully.

Only Veeco stockholders of record at the close of business on , 2002 are entitled to notice of, and to vote at, the Veeco special meeting or any adjournment or postponement of the Veeco special meeting.

Your vote is important. To assure that your shares are represented at the Veeco special meeting, you are urged to complete, date and sign the enclosed proxy and promptly mail it in the postage-paid envelope provided, whether or not you plan to attend the Veeco special meeting in person.

You may revoke your proxy in the manner described in the accompanying joint proxy statement/prospectus at any time before it has been voted at the Veeco special meeting. You may vote in person at the Veeco special meeting even if you have returned a proxy.

By Order of the Board of Directors,

John F. Rein, Jr.
Executive Vice President, Chief Financial Officer, Treasurer and Secretary

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FEI COMPANY

7451 NW Evergreen Parkway
Hillsboro, OR 97124
(503) 640-7500

NOTICE OF SPECIAL MEETING OF SHAREHOLDERS
To be held on , 2002

We will hold a special meeting of shareholders of FEI Company at a.m. (local time), on , , 2002, at to consider and vote upon the following proposals:

1. To approve the merger of Venice Acquisition Corp., a wholly-owned subsidiary of Veeco Instruments Inc., with and into FEI pursuant to which FEI will become a wholly-owned subsidiary of Veeco and each outstanding share of FEI common stock will be converted into the right to receive 1.355 shares of Veeco common stock; and

2. To transact any other business that may properly come before the special meeting or any adjournment or postponement of the special meeting.

Your board of directors unanimously has determined that the merger is advisable, consistent with and in furtherance of the long-term business strategy of FEI and fair to, and in the best interests of, FEI and you, and recommends that you vote to approve the merger.

We describe the merger more fully in the accompanying joint proxy statement/prospectus, which we urge you to read carefully.

Only FEI shareholders of record at the close of business on , 2002 are entitled to notice of, and to vote at, the FEI special meeting or any adjournment or postponement of the special meeting.

Your vote is important. To assure that your shares are represented at the FEI special meeting, you are urged to complete, date and sign the enclosed proxy and promptly mail it in the postage-paid envelope provided, whether or not you plan to attend the FEI special meeting in person.

You may revoke your proxy in the manner described in the accompanying joint proxy statement/prospectus at any time before it has been voted at the FEI special meeting. You may vote in person at the FEI special meeting even if you have returned a proxy.

By Order of the Board of Directors,

Bradley J. Thies
Secretary

ADDITIONAL INFORMATION

This joint proxy statement/prospectus incorporates important business and financial information about Veeco and FEI from documents that each company has filed with the Securities and Exchange Commission but that have not been included in or delivered with this joint proxy statement/prospectus. For a listing of documents incorporated by reference into this joint proxy statement/prospectus, please see the section titled "Where You Can Find More Information" beginning on page 126.

You may obtain information relating to Veeco, without charge, upon written or oral request to:

Georgeson Shareholder Communications Inc. 17 State Street, 28th Floor New York, NY 10004 (212) 805-7000	*or*	Veeco Instruments Inc. Investor Relations 100 Sunnyside Boulevard Woodbury, NY 11797 (516) 677-0200, Ext. 1403

You may obtain information relating to FEI, without charge, upon written or oral request to:

Georgeson Shareholder Communications Inc. 17 State Street, 28th Floor New York, NY 10004 (212) 805-7000	*or*	FEI Company Investor Relations 7451 NW Evergreen Parkway Hillsboro, OR 97124 (503) 640-7500, Ext. 7527

In order for you to receive timely delivery of the documents before the special meetings of Veeco and FEI, Georgeson, Veeco or FEI should receive your request no later than , 2002.

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QUESTIONS AND ANSWERS ABOUT THE MERGER

Q:

What transactions are proposed?

A:

Venice Acquisition Corp., a wholly-owned subsidiary of Veeco Instruments Inc., will be merged with and into FEI Company and FEI will become a wholly-owned subsidiary of Veeco after the merger.

For a more complete description of the merger, see the section titled "The Merger" beginning on page 41. Also, the merger agreement is attached to this joint proxy statement/prospectus as Appendix A. You are encouraged to read it carefully.

Q:

Why am I receiving this joint proxy statement/prospectus?

A:

As a Veeco stockholder or an FEI shareholder, you are being asked to vote upon certain measures in order to complete the merger.

Q:

What will FEI shareholders receive in the merger?

A:

As a result of the merger, FEI shareholders will have the right to receive 1.355 shares of Veeco common stock in exchange for each share of FEI common stock held by them.

Instead of any fractional shares of Veeco common stock, FEI shareholders will receive cash based on the closing market price of Veeco common stock on the day before the merger. For example, if the merger is completed, a holder of 100 shares of FEI common stock would receive 135 shares of Veeco common stock and a check representing the value of the remaining 0.5 shares of Veeco common stock.

As a result of the merger, the former FEI shareholders will be entitled to receive a total of approximately 44,000,000 shares of Veeco common stock (and others may be entitled to receive up to approximately 10,000,000 Veeco shares which may be issued in respect of FEI's options and other rights and convertible notes). The number of shares of Veeco common stock issued to the former FEI shareholders will represent approximately 60% of the Veeco common stock outstanding after the merger (not including shares of common stock issuable in respect of options, convertible debt and other convertible securities and rights).

For a more complete description of what FEI shareholders will receive in the merger, see the section titled "The Merger Agreement Merger Consideration" beginning on page 77.

Q:

Will Veeco assume FEI's outstanding stock options and convertible notes in the merger?

A:

Yes. In connection with the merger, Veeco will assume FEI's outstanding stock options and FEI's $175 million 5.5% Convertible Subordinated Notes due August 15, 2008. After the merger, holders of options to purchase FEI common stock will hold options to purchase shares of Veeco common stock and holders of the FEI notes, which are currently convertible into FEI common stock, will hold notes convertible solely into Veeco common stock. The number of shares issuable and the exercise prices payable upon the exercise of these options, and the number of shares into which the FEI notes are convertible, will be adjusted using the exchange ratio for the merger of 1.355 shares of Veeco common stock for each share of FEI common stock. At June 30, 2002, a total of approximately 10,000,000 Veeco shares would have been issuable under FEI's options and other rights and convertible notes assuming

the merger had occurred on that date.

Q: **What is the value of the merger consideration?**

A: The 1.355 exchange ratio is fixed, which means that the number of shares of Veeco common stock to be issued in the merger will not change if the trading prices of the Veeco common stock or the FEI common stock change. The market value of the Veeco common stock that FEI shareholders will receive in the merger, however, will

increase or decrease as the price of the Veeco common stock increases or decreases.

Veeco's and FEI's stock prices are volatile. We encourage you to obtain current market quotations of Veeco common stock and FEI common stock prior to voting on the merger and the related proposals.

Q: **Are there risks involved in the merger?**

A: Yes. In evaluating the merger, you should carefully consider the factors discussed in the section of this joint proxy statement/prospectus titled "Risk Factors" beginning on page 14.

Q: **Does Veeco's board of directors recommend that Veeco stockholders vote in favor of the issuance of Veeco common stock in the merger and the amendments to Veeco's Amended and Restated Certificate of Incorporation?**

A: Yes. After careful consideration, Veeco's board of directors unanimously recommends that Veeco stockholders vote in favor of the issuance of Veeco common stock in the merger and also unanimously recommends that Veeco stockholders vote in favor of the proposed amendments to Veeco's Amended and Restated Certificate of Incorporation.

For a complete description of the recommendation of Veeco's board of directors, see the section titled "The Merger Recommendation of Veeco's Board of Directors" on page 50.

Q: **Does FEI's board of directors recommend that FEI shareholders vote in favor of the merger?**

A: Yes. After careful consideration, FEI's board of directors unanimously recommends that FEI's shareholders vote in favor of the merger.

For a more complete description of the recommendation of FEI's board of directors, see the section titled "The Merger Recommendation of FEI's Board of Directors" on page 50.

Q: **What do FEI shareholders and Veeco stockholders need to do now?**

A: Veeco stockholders and FEI shareholders should read carefully this joint proxy statement/prospectus, including all of the Appendices referred or attached to this joint proxy statement/prospectus. They should consider how the transaction will affect them as a Veeco stockholder or FEI shareholder prior to casting their vote. They may also want to review the documents referenced in this joint proxy statement/prospectus under the section titled "Where You Can Find More Information" on page 126.

Q: **What do I do if I want to change my vote?**

A:

If you want to change your vote, deliver to FEI's Secretary (if you are an FEI shareholder) or to Veeco's Secretary (if you are a Veeco stockholder) a written notice of revocation of your proxy or a later-dated, signed proxy card before the FEI special meeting or the Veeco special meeting, as applicable, or attend the appropriate special meeting and vote in person.

For a more complete description of how to change your vote, see the sections titled "The FEI Special Meeting" on page 39 (if you are an FEI shareholder) and "The Veeco Special Meeting" on page 37 (if you are a Veeco stockholder).

Q:

Where will the shares of Veeco common stock issued to FEI shareholders trade after the merger?

A:

The Veeco common stock FEI shareholders will receive in the merger will be listed on The Nasdaq National Market under the symbol "VECO."

Q:

What have been the dividend policies of Veeco and FEI?

A:

Neither Veeco nor FEI has paid cash dividends and they do not expect to do so in the foreseeable future.

Q:

What vote is needed to effect the merger?

A:

A majority of the votes cast at Veeco's special meeting (including votes cast by proxy) must vote "**FOR**" the proposed issuance of Veeco common stock in the

merger in order for the proposed issuance to be approved by Veeco's stockholders.

The holders of a majority of the outstanding shares of Veeco common stock entitled to vote at the Veeco special meeting also must vote "**FOR**" the proposed amendment to Veeco's Amended and Restated Certificate of Incorporation increasing the number of authorized shares of Veeco's common stock in order for this proposal to be approved by Veeco's stockholders.

Veeco stockholders who owned approximately 12.8% of the outstanding shares of Veeco common stock, as of June 30, 2002, have signed agreements with FEI in which they have agreed to vote "**FOR**" the issuance of Veeco common stock in the merger and "**FOR**" the approval of the amendment to Veeco's Amended and Restated Certificate of Incorporation increasing the number of authorized shares of Veeco's common stock. These Veeco stockholders also have granted irrevocable proxies to FEI to vote their shares in this manner. For more information on these voting arrangements, see the section titled "Other Agreements Voting Arrangements with Veeco Stockholders" on page 96.

The holders of a majority of the shares of FEI common stock entitled to vote must vote "**FOR**" the merger at the FEI special meeting in order for the merger to be approved by FEI's shareholders.

FEI shareholders who owned approximately 27.4% of the outstanding shares of FEI common stock, as of June 30, 2002, have signed agreements with Veeco in which they agreed to vote "**FOR**" the merger. These FEI shareholders also have granted irrevocable proxies to Veeco to vote their shares in this manner. For more information on these voting arrangements, see the section titled "Other Agreements Voting Arrangements with FEI Shareholders" beginning on page 97.

Q:

What vote is needed for the proposed amendment to Veeco's Amended and Restated Certificate of Incorporation to change the name of Veeco Instruments Inc. to Veeco FEI Inc.?

A:

The holders of a majority of the outstanding shares of Veeco common stock entitled to vote at the Veeco special meeting must vote "**FOR**" the proposed amendment to Veeco's Amended and Restated Certificate of Incorporation in order for this proposal to be approved by Veeco's stockholders.

Q:

What happens if an FEI shareholder votes "AGAINST" the merger but a majority of the FEI shareholders vote"FOR" the merger?

A:

The merger will be approved, and each FEI shareholder will have the right to receive 1.355 shares of Veeco common stock for each share of FEI common stock such shareholder holds when the merger is completed.

Q:

If my shares are held in "street name" by my broker, will my broker vote my shares for me?

A:

Your broker will vote your shares only if you provide instructions on how to vote by following the information provided to you by your broker.

Q:

Should FEI shareholders send in their stock certificates now?

A:

No. After the merger is completed, FEI shareholders will receive a letter of transmittal and other documentation from the exchange agent in the merger, together with written instructions for exchanging their FEI stock certificates for Veeco FEI stock certificates.

Q:

When do you expect the merger to be completed?

A:

We are working toward completing the merger as quickly as possible and hope to complete the merger shortly after the FEI special meeting and the Veeco special meeting.

Q:

Who should I call with questions?

A:

Veeco stockholders should call either Georgeson Shareholder

Communications Inc. at (212) 805-7000 or Veeco Investor Relations at (516) 677-0200, Ext. 1403 with any questions about the merger.

FEI shareholders should call either Georgeson Shareholder Communications Inc. at (212) 805-7000 or FEI Investor Relations at (503) 640-7500, Ext. 7527 with any questions about the merger.

You also may obtain additional information about FEI or Veeco from documents filed with the Securities and Exchange Commission by following the instructions in the section titled "Where You Can Find More Information" on page 126.

JOINT PROXY STATEMENT/PROSPECTUS SUMMARY

For your convenience, we have provided a brief summary of certain information contained in this joint proxy statement/prospectus. This summary highlights selected information found in greater detail elsewhere in this joint proxy statement/prospectus. This summary does not contain all of the information that is important to you. To understand the proposed merger fully and for a more complete description of the legal terms of the proposed merger, we urge you to carefully read this entire joint proxy statement/prospectus (including the attached Appendices) and the documents to which we have referred you before you decide how to vote. See the section titled "Where You Can Find More Information" on page 126.

The Companies

Veeco Instruments Inc.
100 Sunnyside Boulevard
Woodbury, NY 11797
(516) 677-0200

Veeco designs, manufactures, markets and services a broad line of equipment primarily used by manufacturers in the data storage, telecommunications/wireless, semiconductor and research industries. Veeco's broad line of products featuring leading edge technology allows customers to improve time to market of next generation products. Veeco's metrology, or measurement, 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 metrology equipment allows customers to monitor their products throughout the manufacturing process in order to improve yields, reduce costs and improve product quality. Veeco's process equipment products precisely deposit or remove various materials in the manufacturing of advanced thin film magnetic heads for the data storage industry and telecommunications/wireless components. The ability of Veeco's products to precisely deposit thin films, and/or etch sub-micron patterns and make critical surface measurements enables manufacturers to improve yields and quality in the fabrication of advanced microelectronic devices, such as passive and active telecommunications components, wireless devices, thin film magnetic heads and semiconductor devices. Veeco serves its worldwide customers through its global sales and service organization located throughout the United States, Europe, Japan and Asia Pacific.

Venice Acquisition Corp.
c/o Veeco Instruments Inc.

Venice Acquisition Corp. is an Oregon corporation and a wholly-owned subsidiary of Veeco. Venice Acquisition Corp. was formed for the purpose of effecting the merger with FEI pursuant to the merger agreement.

FEI Company
7451 NW Evergreen Parkway
Hillsboro, OR 97124
(503) 640-7500

FEI is a leading supplier of structural process management solutions to the semiconductor, data storage, structural biology, and industry and institute markets. FEI's range of DualBeam and single column focused ion and electron microscope products enables manufactures and researchers to keep pace with technology shifts and develop next generation technologies and products. FEI's products allow advanced three dimensional metrology, device editing, trimming and structural analysis for management of sub-micron structures, including those found in integrated circuits, high density magnetic storage devices, industrial materials, chemical compounds, biological structures and genomes. FEI sells its products worldwide to a geographically diverse base of customers in the semiconductor, data storage and industry and institute markets.

Philips Business Electronics International B.V.
c/o Philips Electronics North America Corporation
1251 Avenue of the Americas
New York, NY 10022
(212) 536-0633

Philips Business Electronics International B.V., or PBE, is a wholly-owned subsidiary of Koninklijke Philips Electronics N.V. and is FEI's largest shareholder, holding approximately 25% of FEI's outstanding shares of common stock. In this joint proxy statement/prospectus we use Philips to refer to Koninklijke Philips Electronics N.V. and its affiliates, including PBE, and PBE is used only with respect to the Philips entity that directly holds shares of FEI's common stock.

Description of the Transaction

Pursuant to an Agreement and Plan of Merger, dated July 11, 2002, among Veeco Instruments Inc., Venice Acquisition Corp. and FEI Company, Venice Acquisition Corp., shall, subject to the terms and satisfaction of the conditions set forth in the merger agreement, be merged with and into FEI, and FEI shall become a wholly-owned subsidiary of Veeco. As a result of the merger, FEI shareholders will have the right to receive 1.355 shares of Veeco common stock for each share of FEI common stock held by them.

What FEI Securityholders Will Receive in the Merger

Holders of Shares of FEI Common Stock

If the merger occurs, each FEI shareholder will have the right to receive 1.355 shares of Veeco common stock for each share of FEI common stock they own before the merger. Veeco will not issue fractional shares of Veeco common stock in exchange for shares of FEI common stock in the merger. Instead, Veeco will issue an appropriate amount of cash in lieu of any fractional shares. This cash amount will be based on the closing trading price of Veeco common stock on the trading day before the closing of the merger.

FEI Options

Each option to purchase a share of FEI common stock will be assumed by Veeco upon completion of the merger and will be converted into an option to purchase 1.355 shares of Veeco common stock at an exercise price equal to the current exercise price divided by 1.355. Veeco will assume each option to purchase shares of FEI common stock in accordance with the terms of the stock option plan or other arrangement under which the option was issued, but converted as described above into an option to purchase shares of Veeco common stock.

Convertible Debt

FEI's $175 million 5.5% Convertible Subordinated Notes due August 15, 2008, shall be assumed by Veeco and become convertible solely into such number of shares of Veeco common stock that would have been issued if the FEI notes had been converted into FEI common stock immediately prior to the closing of the merger.

Stock Certificates

FEI shareholders should **NOT** send in their FEI stock certificates until after the merger and until they receive a letter of transmittal and other information and instructions on how to exchange the certificates. For information on exchanging shares of FEI common stock for shares of Veeco common stock after the merger, see the section titled "The Merger Agreement Merger Consideration Exchange of Certificates" on page 77.

Reasons for the Merger

Veeco's and FEI's Reasons for the Merger

The Veeco and FEI boards of directors approved the merger agreement and the transactions contemplated by the merger agreement because they determined that the combined company would have the potential to realize a stronger competitive position and improve long-term operating and financial results. The boards of directors considered many factors that they believed could contribute to the long-term success of the combined company including, among other things, the potential that the combined company would have:

- Enhanced ability to provide more comprehensive product solutions and expanded product lines to its customers;
- Decreased dependency on major customers;
- Increased critical mass and global presence to better serve customers' needs;
- Expanded research and development efforts;
- Enhanced purchasing power; and
- A stronger management team to position the combined company to take advantage of future growth opportunities.

The Veeco and FEI boards of directors considered a number of other factors as well as potential risks and disadvantages of the merger.

You should carefully review the sections titled "The Merger Veeco's Reasons for the Merger," beginning on page 45, and "The Merger FEI's Reasons for the Merger," beginning on page 48, to learn more about Veeco's and FEI's reasons for entering into the merger agreement.

Recommendation of Veeco's Board of Directors

Veeco's board of directors unanimously has approved the merger, the merger agreement and the transactions contemplated thereby and has determined that the merger is advisable, consistent with and in furtherance of the long-term business strategy of Veeco and fair to, and in the best interests of, Veeco and its stockholders, and has determined that the proposed amendments to Veeco's Amended and Restated Certificate of Incorporation are advisable. After careful consideration, Veeco's board of directors unanimously recommends that Veeco's stockholders vote "FOR" approval of the issuance of Veeco common stock to FEI shareholders in the merger. Veeco's board of directors also unanimously recommends that Veeco's stockholders vote "FOR" approval of the amendments to Veeco's Amended and Restated Certificate of Incorporation to change the name of Veeco Instruments Inc. to Veeco FEI Inc. and to increase the number of authorized shares of Veeco common stock from 60,000,000 to 175,000,000 shares.

Recommendation of FEI's Board of Directors

FEI's board of directors unanimously has approved the merger, the merger agreement and the transactions contemplated by the merger agreement and has determined that the merger is advisable, consistent with and in furtherance of the long-term business strategy of FEI and fair to, and in the best interests of, FEI and its shareholders. After careful consideration, FEI's board of directors unanimously recommends that FEI shareholders vote "FOR" the approval of the merger.

Opinion of Veeco's Financial Advisor

In connection with the merger, the Veeco board of directors received a written opinion from Salomon Smith Barney Inc., Veeco's financial advisor, dated as of July 11, 2002, to the effect that as of such date and based on and subject to the matters described in its opinion, the exchange ratio was fair, from a financial point of view, to Veeco. The full text of Salomon Smith Barney's written opinion, dated July 11, 2002, is attached to this joint proxy statement/prospectus as Appendix E. We encourage you to read this opinion carefully in its entirety for a description of the assumptions made, procedures followed, matters considered and limitations on the review undertaken. **Salomon Smith Barney's opinion is addressed to the Veeco board of directors and does not constitute a recommendation to any stockholder with respect to any matters relating to the proposed merger.** For more information, see the section titled "The Merger Opinion of Veeco's Financial Advisor" beginning on page 50.

Opinion of FEI's Financial Advisor

In deciding to approve the merger, the FEI board of directors considered, among other things, the opinion of Credit Suisse First Boston, FEI's financial advisor, dated as of July 11, 2002, to the effect that as of such date and based upon and subject to the various considerations set forth in the opinion, the exchange ratio in the merger was fair, from a financial point of view, to holders of FEI common stock, other than PBE and its affiliates. The full text of the written opinion of Credit Suisse First Boston, dated as of July 11, 2002, which sets forth assumptions made, matters considered and limitations on the review undertaken in connection with the opinion, is attached as Appendix D. You are urged to read this opinion carefully in its entirety. **Credit Suisse First Boston's opinion is directed to the FEI board of directors, addresses only the fairness, from a financial point of view, of the merger exchange ratio to holders of FEI common stock, other than PBE and its affiliates, and does not constitute a recommendation to any FEI shareholder as to how such FEI shareholder should vote or act on matter relating to the merger.** For more information,

see the section titled "The Merger Opinion of FEI's Financial Advisor" beginning on page 55.

Voting and Solicitation

Veeco

At the Veeco special meeting, each Veeco stockholder of record as of , 2002 is entitled to one vote for each share of Veeco common stock such Veeco stockholder holds. Veeco's bylaws provide that the holders of 50% of all of the Veeco common stock entitled to vote, whether present in person or represented by proxy, shall constitute a quorum for the transaction of business at the Veeco special meeting. Under applicable rules of The Nasdaq National Market, if a quorum is present, the affirmative vote of a majority of the votes cast, whether in person or by proxy, at Veeco's special meeting, is required to approve the issuance of Veeco common stock in the merger. Under the Delaware General Corporation Law, the affirmative vote of the holders of a majority of the outstanding Veeco common stock entitled to vote, whether in person or by proxy, at Veeco's special meeting is required to approve the amendments to Veeco's Amended and Restated Certificate of Incorporation to change the name of Veeco Instruments Inc. to Veeco FEI Inc. and to increase the number of authorized shares of Veeco's common stock from 60,000,000 to 175,000,000 40,000,000 shares.

FEI

At the FEI special meeting, each FEI shareholder of record as of , 2002 is entitled to one vote for each share of FEI common stock such FEI shareholder holds. FEI's bylaws provide that the holders of a majority of all of the FEI common stock entitled to vote, whether present in person or represented by proxy, shall constitute a quorum for the transaction of business at the FEI special meeting. Under the Oregon Business Corporation Act, the holders of a majority of the shares of FEI common stock entitled to vote must vote "**FOR**" the approval of the merger in order for the merger to be approved by FEI's shareholders.

Share Ownership of Management

Veeco

As of the Veeco record date, the directors and executive officers of Veeco, as a group, held (together with their affiliates) approximately % of the outstanding shares of Veeco common stock.

FEI

As of the FEI record date, the directors and executive officers of FEI, as a group, held (together with their affiliates) approximately % of the outstanding shares of FEI common stock.

Stockholder Voting Arrangements

Voting Arrangements With Veeco Stockholders

Certain Veeco stockholders that own an aggregate of approximately 12.8% of the outstanding shares of Veeco common stock, as of June 30, 2002, have entered into voting agreements with FEI. These Veeco stockholders include all of Veeco's directors and executive officers and Chorus, L.P., Veeco's largest stockholder. Pursuant to these voting agreements, they have agreed to vote all of their shares of Veeco common stock:

- In favor of the approval of the issuance of Veeco common stock to FEI shareholders in the merger;
- In favor of the approval of the amendment to Veeco's Amended and Restated Certificate of Incorporation to increase the authorized shares of Veeco's common stock; and
- Against proposals or transactions that would in any manner prevent or nullify the merger, the merger agreement or any related transactions.

These Veeco stockholders, however, are permitted to vote their shares in favor of a Superior Veeco Proposal or related Veeco Acquisition Transaction, as such terms are defined on page 85. These Veeco stockholders also have granted irrevocable proxies to FEI to allow FEI to vote all of their shares of Veeco

common stock in favor of the issuance of Veeco common stock in the merger.

The voting agreements between FEI and these Veeco stockholders, and the related irrevocable proxies granted to FEI by each such Veeco stockholder are included as Appendix C-1 and Appendix C-2 to this joint proxy statement/prospectus. For more information on these voting arrangements, see the section titled "Other Agreements Voting Arrangements with Veeco Stockholders" on page 96.

Voting Arrangements With FEI Shareholders

Certain FEI shareholders that own an aggregate of approximately 27.4% of the outstanding shares of FEI common stock, as of June 30, 2002, have entered into voting agreements with Veeco. These FEI shareholders include all of FEI's directors and executive officers and PBE, FEI's largest shareholder. Pursuant to these voting agreements, they have agreed to vote all of their shares of FEI common stock:

- In favor of the approval of the merger; and
- Against proposals or transactions that would in any manner prevent or nullify the merger or the merger agreement or any related transactions.

These FEI shareholders, however, are permitted to vote their shares in favor of a Superior FEI Proposal or related FEI Acquisition Transaction, as such terms are defined on page 88 and 87, respectively. These FEI shareholders also have granted irrevocable proxies to Veeco to allow Veeco to vote all of their shares of FEI common stock in favor of the merger.

The voting agreements between Veeco and these FEI shareholders, and the related irrevocable proxies, granted to Veeco by each such FEI shareholder are included as Appendix B-1 and Appendix B-2 to this joint proxy statement/prospectus. For more information on these voting arrangements, see the section titled "Other Agreements Voting Arrangements with FEI Shareholders" beginning on page 96.

Interests of Certain Persons in the Merger

In considering the recommendation of the FEI board of directors that FEI shareholders vote to approve the merger and the recommendation of the Veeco board of directors that Veeco stockholders vote to approve the issuance of Veeco common stock in the merger and the proposed amendments to Veeco's Amended and Restated Certificate of Incorporation, FEI shareholders and Veeco stockholders should note that certain directors and officers of Veeco and FEI have interests in the merger that are different from, or in addition to, their interests as stockholders/shareholders. These interests relate to the composition of the Veeco FEI board of directors and the management of Veeco FEI following the merger, employment agreements, potential severance payments, potential accelerated vesting of stock options, indemnification rights and certain rights granted to PBE, FEI's largest shareholder, under the investor agreement. For more information, see the section titled "The Merger Interests of Executive Officers and Directors in the Merger" beginning on page 69.

Board of Directors and Management Following the Merger

Veeco and FEI have agreed that immediately following the closing of the merger, the Veeco FEI board of directors will consist of thirteen directors. Of these thirteen directors:

- Seven will be nominated by Veeco from the current members of Veeco's board of directors and will include Edward H. Braun, Veeco's current Chairman, Chief Executive Officer and President;
- Five will be nominated by FEI from the current members of FEI's board of directors and will include Vahé A. Sarkissian, FEI's current Chairman, Chief Executive Officer and President; and
- One will be nominated by PBE, FEI's largest shareholder.

Veeco's bylaws provide for a staggered board of directors, composed of three separate classes: Class I, Class II and Class III. Veeco, FEI and PBE have agreed that two Veeco nominees and

two FEI nominees will serve as Class III directors for terms expiring at Veeco FEI's 2003 annual meeting of stockholders, two Veeco nominees and two FEI nominees will serve as Class I directors for terms expiring at Veeco FEI's 2004 annual meeting of stockholders and three Veeco nominees, one FEI nominee and one PBE nominee will serve as Class II directors for terms expiring at Veeco FEI's 2005 annual meeting of stockholders. For more information on this arrangement and for more information regarding PBE's right to appoint a person to serve on the Veeco FEI board of directors, see the sections titled "The Merger Interests of Executive Officers and Directors in the Merger" beginning on page 69, "The Merger Board of Directors and Management of Veeco FEI After the Merger" beginning on page 66 and "Other Agreements Investor Agreement with PBE" beginning on page 97.

Description of Merger Agreement

Terms of the Merger

For information on the terms of the merger in addition to the information contained in this summary, see the sections titled "The Merger" beginning on page 41 and "The Merger Agreement" beginning on page 77.

The merger agreement is attached as Appendix A to this joint proxy statement/prospectus and is incorporated by reference herein. Veeco and FEI encourage you to read the merger agreement carefully. It is the legal document governing the merger.

Representations, Warranties and Covenants

In the merger agreement, Veeco and FEI each have made representations and warranties to each other concerning their respective businesses. Each party also has made covenants to the other concerning its activities between the signing of the merger agreement and closing of the merger, the actions it will take to enable the completion of the merger, and other matters.

For more information on these representations, warranties and covenants, see the sections titled "The Merger Agreement Representations and Warranties" and "The Merger Agreement Certain Covenants" on pages 78 and 79, respectively.

Conditions to the Merger

Veeco and Venice Acquisition Corp.

Veeco and Venice Acquisition Corp. will complete the merger only if a number of conditions are satisfied or are waived by Veeco and Venice Acquisition Corp. These include:

- FEI's representations and warranties set forth in the merger agreement are true and correct as of the closing date of the merger except where the failure to be true and correct would not, in the aggregate, reasonably be expected to have a Material Adverse Effect, as such term is defined on page 89, on FEI;
- FEI performs certain covenants and obligations contained in the merger agreement in all material respects;
- FEI's shareholders approve the merger;

Veeco's stockholders approve the issuance of Veeco common stock in the merger and the amendment to Veeco's Amended and Restated Certificate of Incorporation increasing the authorized shares of Veeco's common stock;

There has been no Material Adverse Effect with respect to FEI;

The applicable antitrust waiting periods shall have expired or been terminated;

The Form S-4 registration statement of which this joint proxy statement/prospectus forms a part shall have become effective and shall remain effective;

There are no pending legal proceedings by any governmental authority, or injunctions or final judgments entered before any court or governmental authority, that seek to or have the effect of restraining or prohibiting the consummation of the transactions contemplated by the merger agreement;

No governmental authority shall have enacted any rule or regulation making the merger illegal or prohibiting the merger; and

The shares of Veeco common stock to be issued in connection with the merger shall have been approved for listing on The Nasdaq National Market.

For more detailed information concerning the conditions to Veeco's and Venice Acquisition Corp.'s obligations to complete the merger, see the section titled "The Merger Agreement Conditions to the Merger" beginning on page 88.

FEI

FEI will complete the merger only if certain conditions are satisfied or are waived by FEI. These include:

Veeco's and Venice Acquisition Corp.'s representations and warranties set forth in the merger agreement are true and correct as of the closing date of the merger except where the failure to be true and correct would not, in the aggregate, reasonably be expected to have a Material Adverse Effect on Veeco;

Veeco and Venice Acquisition Corp. perform certain covenants and obligations contained in the merger agreement in all material respects;

FEI's shareholders approve the merger;

Veeco's stockholders approve the issuance of Veeco common stock in the merger and the amendment to Veeco's Amended and Restated Certificate of Incorporation increasing the authorized shares of Veeco's common stock;

There has been no Material Adverse Effect with respect to Veeco;

All applicable antitrust waiting periods shall have expired or been terminated;

The Form S-4 registration statement of which this joint proxy statement/prospectus forms a part shall have become effective and shall remain effective;

There are no pending legal proceedings by any governmental authority, or injunctions or final judgments entered before any court or governmental authority, that seek to or have the effect of restraining or prohibiting the consummation of the transactions contemplated by the merger agreement;

No governmental authority shall have enacted any rule or regulation making the merger illegal or prohibiting the merger; and

The shares of Veeco common stock to be issued in connection with the merger shall have been approved for listing on The Nasdaq National Market.

For more detailed information concerning the conditions to FEI's obligation to complete the merger, see the section titled "The Merger Agreement Conditions to the Merger" beginning on page 88.

No Solicitation

Veeco

Veeco has agreed not to directly or indirectly solicit, induce, encourage, initiate or facilitate a Veeco Acquisition Proposal, as such term is defined on page 85. Veeco has also agreed not to engage in negotiations or discussions with respect to any Veeco Acquisition Proposal, provide any information regarding Veeco or its subsidiaries, enter into a contract or letter of intent with respect to a Veeco Acquisition Proposal or approve, recommend or endorse a Veeco Acquisition Proposal. However, if Veeco receives a bona fide, unsolicited, written Veeco Acquisition Proposal that Veeco's board of directors reasonably determines in good faith would be reasonably likely to result in a Superior Veeco Proposal, as such term is defined on page 85, then Veeco may engage in discussions and take other actions to become informed about such Veeco Acquisition Proposal in certain circumstances.

For more information regarding Veeco's agreements with FEI relating to Veeco Acquisition Proposals, see the section titled "The Merger Agreement No Solicitation" beginning on page 84.

FEI

FEI has agreed not to directly or indirectly solicit, induce, encourage, initiate or facilitate an FEI Acquisition Proposal, as such term is defined on page 86. FEI has also agreed not to engage in negotiations or discussions with respect to any FEI Acquisition Proposal, provide any information regarding FEI or its subsidiaries, enter into a contract or letter of intent with respect to an FEI Acquisition Proposal or approve, recommend or endorse an FEI Acquisition Proposal. However, if FEI receives a bona fide, unsolicited, written FEI Acquisition Proposal that FEI's board of directors reasonably determines in good faith would be reasonably likely to result in a Superior FEI Proposal, as that term is defined on page 87, then FEI may engage in discussions and take other actions to become informed about such FEI Acquisition Proposal in certain circumstances.

For more information regarding FEI's agreements with Veeco relating to FEI Acquisition Proposals, see the section titled "The Merger Agreement No Solicitation" beginning on page 84.

Termination of the Merger Agreement

Mutual Termination

Either Veeco or FEI may terminate the merger agreement at any time prior to the closing of the merger if:

Veeco and FEI mutually consent;

The merger is not completed by December 31, 2002, provided, that, in limited circumstances, this date may be extended to January 30, 2003;

A court or other governmental authority issues a final and nonappealable order, decree or ruling or takes other action, having the effect of permanently restraining, enjoining or otherwise prohibiting the merger;

Veeco's stockholders do not approve the issuance of Veeco common stock in the merger and the amendment to Veeco's Amended and Restated Certificate of Incorporation to increase the authorized shares of Veeco's common stock; or

FEI's shareholders do not approve the merger.

Termination by Veeco

Veeco and Venice Acquisition Corp. may terminate the merger agreement if:

At any time prior to the closing of the merger, FEI materially breaches its representations, warranties or covenants under the merger agreement and does not cure such breach within 30 days after notice thereof; or

At any time prior to the approval by Veeco's stockholders of the issuance of Veeco common stock in the merger and the amendment to Veeco's Amended and Restated Certificate of Incorporation increasing the authorized shares of Veeco's common stock, an FEI Triggering Event, as that term is defined on page 91, occurs.

For a more detailed discussion of the circumstances in which the merger agreement can be terminated, see the section titled "The Merger Agreement Termination of the Merger Agreement" beginning on page 90.

Termination by FEI

FEI may terminate the merger agreement if:

At any time prior to the closing of the merger, Veeco materially breaches its representations, warranties or covenants under the merger agreement and does not cure such breach within 30 days after notice thereof; or

At any time prior to the approval of the merger by FEI's shareholders, a Veeco

Triggering Event, as that term is defined on page 92, occurs.

Expenses and Termination Fees

Payment of Expenses

FEI and Veeco will each pay their own fees and expenses in connection with the merger, whether or not the merger is completed, except that FEI and Veeco will share equally filing fees and printing expenses in connection with this joint proxy statement/prospectus and the fees and expenses involved in connection with all required antitrust filings.

Veeco will be required to pay up to $5 million of FEI's fees and expenses in connection with the merger in the following circumstances:

- In the event that the merger agreement is terminated by FEI or Veeco because Veeco stockholders do not approve the issuance of Veeco common stock to FEI shareholders in the merger or the amendment to Veeco's Amended and Restated Certificate of Incorporation to increase the authorized shares of Veeco's common stock at the Veeco special meeting, and at or prior to the time of such termination a Veeco Acquisition Proposal shall have been publicly disclosed, announced, commenced, submitted or made and not subsequently unconditionally withdrawn; or

- If Veeco breaches its representations, warranties or covenants in a manner that gives FEI the right to terminate the merger agreement and FEI then terminates the merger agreement.

FEI will be required to pay up to $5 million of Veeco's fees and expenses in connection with the merger in the following circumstances:

- In the event that the merger agreement is terminated by FEI or Veeco because FEI shareholders do not approve the merger at the FEI special meeting, and at or prior to the time of such termination an FEI Acquisition Proposal shall have been publicly disclosed, announced, commenced, submitted or made and not subsequently unconditionally withdrawn; or

- If FEI breaches its representations, warranties or covenants in a manner that gives Veeco the right to terminate the merger agreement and Veeco then terminates the merger agreement.

Termination Fees

Veeco has agreed to pay FEI a termination fee of $30 million in the following circumstances:

- Veeco or FEI terminates the merger agreement because Veeco's stockholders do not approve the issuance of Veeco common stock to FEI's shareholders or the amendment to Veeco's Amended and Restated Certificate of Incorporation to increase the authorized shares of Veeco's common stock at the Veeco special meeting at a time when a Veeco Acquisition Proposal has been publicly disclosed, announced, commenced, submitted or made and not unconditionally withdrawn and within 12 months following the termination either (1) a Veeco Acquisition Transaction (as such term is defined on page 85, except that all references to "15%" shall read "40%") is consummated or (2) Veeco enters into a letter of intent or contract providing for a Veeco Acquisition Transaction and such Veeco Acquisition Transaction is consummated within 24 months following termination of the merger agreement; or

- FEI terminates the merger agreement because a Veeco Triggering Event has occurred; *provided, however*, that if the merger agreement is terminated by FEI because of a breach by Veeco of its nonsolicitation obligations, then such termination fee will be payable only if within 12 months following the termination of the merger agreement, either (1) a Veeco Acquisition Transaction (as such term is defined on page 85, except that all references to "15%" therein shall be deemed to read "40%") is consummated or (2) Veeco enters into

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- a letter of intent or contract providing for a Veeco Acquisition Transaction and such Veeco Acquisition Transaction is consummated within 24 months following the termination of the merger agreement.

For more information about expenses and termination fees, see the section titled "The Merger Agreement Fees and Expenses" beginning on page 93.

FEI has agreed to pay Veeco a termination fee of $30 million in the following circumstances:

- Veeco or FEI terminates the merger agreement because FEI's shareholders do not approve the merger at the FEI special meeting at a time when an FEI Acquisition Proposal has been publicly disclosed, announced, commenced, submitted or

made and not unconditionally withdrawn and within 12 months following the termination, either (1) an FEI Acquisition Transaction (as such term is defined on page 86, except that all references to "15%" shall read "40%") is consummated or (2) FEI enters into a letter of intent or contract providing for an FEI Acquisition Transaction and such FEI Acquisition Transaction is consummated within 24 months following termination of the merger agreement; or

Veeco terminates the merger agreement because an FEI Triggering Event has occurred; *provided, however*, that if the merger agreement is terminated by Veeco because of a breach by FEI of its nonsolicitation obligations, then such termination fee will be payable only if within 12 months following the termination of the merger agreement, either (1) an FEI Acquisition Transaction (as such term is defined on page 86, except that all references to "15%" therein shall be deemed to read "40%") is consummated, or (2) FEI enters into a letter of intent or contract providing for an FEI Acquisition Transaction and such FEI Acquisition Transaction is consummated within 24 months following the termination of the merger agreement.

When the Merger Will Occur

Unless Veeco and FEI otherwise agree, the merger will take place no later than the second business day after all of the conditions to closing of the merger contained in the merger agreement have been satisfied or waived. Assuming that both FEI and Veeco satisfy or waive all of the conditions in the merger agreement, we anticipate that the merger will occur shortly after the FEI special meeting and the Veeco special meeting. For more information on regulatory matters and other conditions to the closing of the merger, see the section titled "The Merger Agreement Conditions to the Merger" beginning on page 88.

Investor Agreement with PBE

In connection with the merger, Veeco, FEI and PBE entered into an investor agreement, dated as of July 11, 2002. This investor agreement provides for, among other things, the following:

Registration rights for the shares of Veeco FEI common stock that PBE will receive in the merger;

The right of PBE to designate one director to serve on Veeco FEI's board of directors for a certain period of time;

"Standstill" restrictions prohibiting PBE and its affiliates from acquiring more than a specified percentage of outstanding Veeco FEI common stock or taking certain other actions; and

Veeco's assumption of FEI's obligation to issue, at PBE's option, additional common stock upon the exercise of certain outstanding options to purchase FEI common stock.

The investor agreement is included as Appendix G to this joint proxy statement/prospectus. For a more detailed description of the terms and conditions of the investor agreement, see the section titled "Other Agreements Investor Agreement with PBE" beginning on page 97.

Material U.S. Federal Income Tax Consequences of the Merger

The receipt of shares of Veeco common stock in the merger generally will be tax-free to FEI shareholders for U.S. federal income tax purposes, except for tax on gain resulting from the receipt of cash in lieu of fractional shares.

Tax matters are very complicated, and the tax consequences of the merger to each FEI shareholder will depend on the facts of such shareholder's own situation. FEI shareholders are urged to consult their own tax advisors as to the specific tax consequences of the

merger to them, including the applicable federal, state, local and foreign tax consequences.

For more information, see the section titled "The Merger Material U.S. Federal Income Tax Consequences of the Merger" beginning on page 74.

No Appraisal/Dissenters' Rights

In connection with the merger, neither Veeco stockholders nor FEI shareholders are entitled to dissent from the merger and request an appraisal of the value of their shares under Delaware or Oregon law. For more information see the section titled "The Merger Agreement Merger Consideration No Appraisal/Dissenters' Rights" beginning on page 78.

Accounting Treatment of the Merger

The merger will be accounted for using the purchase method for financial reporting and accounting purposes. After the merger, FEI's post-merger results of operations will be included in the consolidated financial statements of Veeco. For more information, see the section titled "The Merger Accounting Treatment of the Merger" beginning on page 75.

Restrictions on Selling Veeco Common Stock Received in the Merger

All shares of Veeco common stock received by FEI shareholders in connection with the merger will be freely transferable, unless the holder is an affiliate of FEI or Veeco. For a more complete description of transfer restrictions that apply to these affiliates, see the section titled "The Merger Resale of Veeco Common Stock Issued in the Merger" beginning on page 73.

Ownership of Veeco FEI Following the Merger

Based upon the number of shares of FEI common stock outstanding on the FEI record date, Veeco expects to issue a total of approximately 44,000,000 shares of Veeco common stock to FEI shareholders in connection with the merger and may be required to issue additional shares of Veeco common stock in the future upon exercise of FEI stock options and other rights and conversion of the FEI notes assumed by Veeco in the merger described below. Based upon the number of shares of Veeco common stock outstanding on the Veeco record date, the former holders of FEI common stock will hold approximately 60% of the total number of issued and outstanding shares of Veeco common stock after completion of the merger (not including shares issuable in respect of options, convertible debt and other convertible securities and rights).

Based upon the number of outstanding options to purchase shares of FEI common stock as of June 30, 2002, those FEI options will become options to purchase an aggregate of approximately 4,174,461 shares of Veeco common stock following the merger.

Based on the number of shares of FEI common stock issuable upon conversion of the FEI notes as of June 30, 2002, the FEI notes will become convertible into an aggregate of approximately 4,788,470 shares of Veeco common stock following the merger.

Markets and Market Prices

Veeco common stock is listed on The Nasdaq National Market under the symbol "VECO." FEI common stock is listed on The Nasdaq National Market under the symbol "FEIC." After the completion of the merger, FEI common stock will cease to be listed on The Nasdaq National Market and Veeco FEI common stock will trade on The Nasdaq National Market under the symbol "VECO."

The following table sets forth the (1) closing sale price per share of Veeco common stock as

reported on The Nasdaq National Market, (2) closing sale price per share of FEI common stock as reported on The Nasdaq National Market and (3) equivalent per share price (as explained below) of FEI common stock in each case, on July 11, 2002, the last trading day before Veeco and FEI announced that they had signed the merger agreement, and on , 2002, the most recent practicable date before the date of this joint

proxy statement/prospectus.

	Veeco Share Price	FEI Share Price	Equivalent FEI Per Share Price(1)
July 11, 2002	$ 22.49	$ 22.06	$ 30.47
2002	$	$	$

(1) The equivalent FEI per share price represents 1.355 times the price of one Veeco share.

Veeco and FEI cannot guarantee or predict the actual trading prices of Veeco common stock and FEI common stock before or at the time the merger is completed. The actual trading prices of FEI common stock and Veeco common stock have historically been volatile. For more information on this risk, see "Risk Factors Risks Related to the Merger and Receipt of Veeco Stock" on page 14.

SPECIAL NOTE REGARDING FORWARD-LOOKING STATEMENTS

This joint proxy statement/prospectus and the documents incorporated by reference herein contain certain forward-looking statements about Veeco, FEI and the combined company within the meaning of the Private Securities Litigation Reform Act of 1995. These forward-looking statements involve risks and uncertainties. Forward-looking statements include, without limitation, expectations about market conditions or about market acceptance, expectations of future sales or gross profits, possible or assumed future results of operations of Veeco and FEI and the integration of the merged companies and the statements included in the sections titled "The Merger Veeco's Reasons for the Merger" and "The Merger FEI's Reasons for the Merger". Forward-looking statements relate to expectations concerning matters that are not historical facts. Words or phrases such as "will likely result," "expect," "will continue," "anticipate," "believe," "estimate," "intend," "plan," "project" or similar expressions are intended to identify forward-looking statements. Actual results may vary materially from those expressed in such forward-looking statements as a result of various factors, including:

- The fact that these forward-looking statements are based on information of a preliminary nature which may be subject to further and continuing review and adjustment;
- The risk that the merger will not be completed because of failure to meet one or more conditions to the merger set forth in the merger agreement;
- The risk of a significant delay in the expected completion of, and unexpected consequences resulting from, the merger;
- The risk that governmental authorities may impose unfavorable terms as a condition of the merger;
- The risk of favorable customer contracts expiring or being renewed on less attractive terms;
- Seasonality in the scientific research sector;
- The cyclical nature of the semiconductor, data storage, telecommunications/wireless and scientific research industries;
- Risks associated with the acceptance of new products by individual customers and by the marketplace;
- The financial condition of FEI's and Veeco's customers;
- Changes in foreign currency exchange rates;
- The inability of the parties to recognize the anticipated benefits of the merger; and
- Matters set forth in this joint proxy statement/prospectus generally.

Although each of Veeco and FEI believes that the forward-looking statements contained in this joint proxy statement/prospectus are reasonable, neither can assure you that the forward-looking statements will prove to be correct. Factors which could cause actual results to differ also include those set forth in the section titled "Risk Factors" beginning on page 14 and elsewhere throughout this joint proxy statement/prospectus and the documents incorporated by reference herein.

Each of Veeco and FEI cautions you not to put undue reliance on any forward-looking statement contained in this joint proxy statement/prospectus and the documents incorporated by reference herein. The risk factors and cautionary statements contained or referred to in this section should be considered in connection with any subsequent written or oral forward-looking statements that Veeco, FEI, or persons acting on either company's behalf, may issue. Except as otherwise required by federal securities laws, we have no intention or obligation to update or revise any forward-looking statements after this document is distributed to reflect the occurrence of unanticipated events or to reflect events or circumstances after the date on which such statement is made.

RISK FACTORS

Veeco stockholders and FEI shareholders should consider the following factors, in addition to other risk factors of the two companies incorporated by reference into this joint proxy statement/prospectus and the other information contained in this document, in deciding whether to vote for approval of the merger, in the case of FEI shareholders, or for approval of the issuance of Veeco common stock in the merger and the amendments to Veeco's Amended and Restated Certificate of Incorporation, in the case of Veeco stockholders. See the section titled "Where You Can Find More Information" beginning on page 126 for where you can find additional risk factors incorporated by reference herein.

Risks Related to the Merger and Receipt of Veeco Stock

Because FEI shareholders will receive a fixed ratio of 1.355 shares of Veeco common stock in exchange for each share of FEI common stock regardless of changes in the relative market values of each stock, the dollar value of the consideration received by FEI shareholders may be lower on the day of closing than it was on the day of the public announcement of the merger or the day this joint proxy statement/prospectus was filed.

Upon completion of the merger, each share of FEI common stock will be converted into the right to receive 1.355 shares of Veeco common stock. The market values of Veeco common stock and FEI common stock have varied since Veeco and FEI entered into the merger agreement and may continue to vary in the future due to, among other factors:

Changes in the business, operating results or prospects of Veeco or FEI;

Actual or anticipated variations in quarterly results of operations;

Market assessments of the likelihood that the merger will be completed;

The timing of the completion of the merger;

Sales of Veeco common stock or FEI common stock;

Additions or departures of key personnel of either company;

Announcements of significant acquisitions, strategic partnerships, joint ventures or capital commitments;

Announcements of technological innovations or the discontinuation of products or services by Veeco, FEI, their competitors or their customers;

Changes in market valuations of competitors;

The prospects of post-merger operations;

Regulatory considerations; and

General market and economic conditions.

The dollar value of Veeco common stock that FEI shareholders will receive upon completion of the merger will depend on the market value of Veeco common stock at the closing of the merger, which may be different from, and lower than, the closing price of Veeco common stock on the last full trading day preceding the date of the public announcement of the merger agreement, the last full trading day prior to the date of this joint proxy statement/prospectus or the date(s) of the special meetings. Moreover, the closing of the merger may occur some time after stockholder approval has been obtained. There will be no adjustment to the exchange ratio (except for adjustments to reflect the effect of any stock split or other recapitalization of Veeco common stock or FEI common stock), and the parties do not have a right to terminate the merger agreement based upon changes in the market price of either Veeco common stock or FEI common stock.

Veeco's stock price is volatile and could decline in the future.

The stock market in general and the market for shares of technology companies in particular have experienced extreme stock price fluctuations. In some cases, these fluctuations have been unrelated to the operating performance of the affected companies. Many companies in the data storage, semiconductor and related equipment industries, including Veeco, have experienced dramatic volatility in the market prices of their common stock. Veeco believes that a number of factors, both within and outside Veeco's control, could cause the price of Veeco common stock to fluctuate, perhaps substantially. These factors include:

Announcements of developments related to Veeco's business or Veeco's competitors' or customers' businesses;

Fluctuations in Veeco's financial results;

General conditions or developments in the semiconductor, data storage, telecommunications/wireless and scientific research industries;

Potential sales of Veeco common stock into the marketplace by Veeco or its stockholders;

Announcements of technological innovations or new or enhanced products by Veeco or its competitors or customers;

A shortfall in revenue, gross margin, earnings or other financial results or changes in research analysts' expectations; and

The limited number of shares of Veeco common stock traded on a daily basis.

Veeco cannot be certain that the market price of Veeco common stock will not experience significant fluctuations in the future, including fluctuations that are material, adverse and unrelated to Veeco's performance.

The combined company may not realize certain potential benefits from the merger because of integration and other challenges, which could negatively impact its results of operations.

Veeco and FEI entered into the merger agreement with the expectation that the merger will result in benefits to the combined company. To realize benefits or synergies from the merger, the combined company will face the following post-merger challenges, among others:

- Diversion of management's attention to the combining of operations;
- Combining product and service offerings effectively and efficiently;
- Retaining and assimilating the management, employees and sales forces of each company;
- Consolidating manufacturing operations;
- Coordinating sales and marketing efforts to effectively communicate the capabilities of the combined company;
- Retaining existing customers, strategic partners and suppliers of each company;
- Coordinating and rationalizing research and development activities to enhance introduction of new products and technologies with reduced cost;
- Coordinating and combining overseas operations, relationships and facilities, which may be subject to additional constraints imposed by local laws and regulations;
- Realizing expected cost savings and synergies from the merger;

- Managing a complex integration process; and
- Developing and maintaining consistent standards, controls, procedures, policies and information systems, and generally combining operations and systems.

If the combined company is not successful in addressing these and other challenges, then some or all of the benefits of the merger will not be realized and, as a result, the combined company's operating results and the market price of the combined company's common stock may be adversely affected. Further, neither Veeco nor FEI can assure you that the growth rate of the combined company will equal the historical growth rates experienced by either Veeco or FEI.

The market price of the combined company's common stock may decline as a result of the merger.

The market price of the combined company's common stock may decline as a result of the merger for a number of reasons, including if:

- The integration of Veeco and FEI is not completed in a timely and efficient manner;
- The combined company does not achieve the perceived benefits of the merger as rapidly or to the extent anticipated by financial or industry analysts;

The effect of the merger on the combined company's financial results is not consistent with the expectations of financial or industry analysts; or

Significant Veeco stockholders or FEI shareholders decide to dispose of their shares following completion of the merger.

Veeco's and FEI's officers and directors have interests different from yours that may have influenced them to support or approve the merger.

The directors and officers of Veeco and FEI have entered or may enter into arrangements that may create interests in the merger that are different from, or in addition to, yours, including the following:

Following the merger, the Veeco FEI board of directors will consist of thirteen members, seven of whom will be nominated by Veeco, five of whom will be nominated by FEI and one of whom will be nominated by PBE;

Veeco has entered into employment agreements providing that following the merger Edward H. Braun will remain as the combined company's President and Chief Executive Officer and Vahé A. Sarkissian will serve as the combined company's Chairman and Chief Strategy Officer;

Veeco has agreed to indemnify each present and former FEI officer and director against liabilities arising out of such person's services as an FEI officer or director;

Veeco FEI will maintain for the next six years officers' and directors' liability insurance to cover liabilities arising out of services provided as an officer or director of FEI;

Some of FEI's officers have severance agreements that provide for severance payments and other benefits if the employment of those officers terminates for certain reasons after the merger; and

Veeco and FEI have agreed to use commercially reasonable efforts to enter into new employment arrangements with certain key employees of Veeco and FEI.

For the above reasons, the directors and officers of Veeco and FEI may have been more likely to support and recommend the approval of the merger agreement than if they did not hold these interests. Veeco stockholders and FEI shareholders should consider whether these interests may have influenced these directors and officers to support or recommend the merger. You should read more

about these interests in the section titled "The Merger Interests of Executive Officers and Directors in the Merger" beginning on page 69.

In addition, two directors of FEI are also employees or officers of Philips and/or PBE. In connection with the merger, Philips and PBE entered into certain agreements with FEI and Veeco. For a description of these agreements, see the sections titled "Other Agreements Voting Agreement with FEI Shareholders," "Other Agreements Investor Agreement with PBE" and "Other Agreements Amendment Agreement among FEI, PBE and Philips" and the documents filed by FEI with the SEC which are incorporated by reference in this joint proxy statement/prospectus. See the section titled "Where You Can Find More Information" beginning on page 126.

Failure to complete the merger could harm Veeco's and FEI's future businesses, operations and stock prices.

Veeco and FEI face a number of special risks if the merger is not completed, including the following risks:

If the merger agreement is terminated for certain reasons, Veeco may be required to reimburse FEI for up to $5 million of its fees and expenses in connection with the merger or pay FEI a termination fee of $30 million. Whether Veeco must pay FEI's fees and expenses in connection with the merger or the termination fee depends upon the circumstances under which the merger agreement is terminated;

If the merger agreement is terminated for certain reasons, FEI may be required to reimburse Veeco for up to $5 million of its fees and expenses in connection with the merger or pay Veeco a termination fee of $30 million. Whether FEI must pay Veeco's fees and expenses in connection with the merger or the termination fee depends upon the circumstances under which the merger agreement is terminated;

Customers, suppliers and others may believe that the separate companies cannot effectively compete in the marketplace without the merger, or there is customer and employee uncertainty surrounding the future direction of the product and service offerings and strategy of Veeco and FEI on a stand alone basis;

The price of Veeco and/or FEI common stock may decline if their current market prices reflect a market assumption that the merger will be completed; and

Costs related to the merger, such as legal and accounting fees, SEC filing fees, antitrust filing fees and some financial advisory fees must be paid even if the merger is not completed.

Uncertainty regarding the merger and the effects of the merger could cause customers or strategic partners to delay or defer decisions, which could negatively affect the combined company's revenues.

Veeco's and/or FEI's customers and strategic partners, in response to the announcement of the merger, may delay or defer decisions, which could have a material adverse effect on the business of the relevant company, regardless of whether the merger is ultimately completed. In particular, prospective customers could be reluctant to purchase the combined company's products due to uncertainty about the direction of the combined company's product offerings and willingness to support and service existing products. To the extent that the merger creates uncertainty among those persons and organizations such that one large customer or a significant group of smaller customers, delays, defers or changes purchases in connection with the planned merger, revenue of the combined company would be adversely affected.

In order to be successful, the combined company must retain and motivate key employees, which will be more difficult in light of uncertainty regarding the merger, and failure to do so could seriously damage the combined company.

In order to be successful, the combined company must retain and motivate executives and other key employees, including those in managerial, technical, marketing and information technology support positions. In particular, the combined company's product generation efforts depend on hiring and retaining qualified engineers. In addition, experienced management and technical, marketing and support personnel in the information technology industry are in high demand and competition for their talents is intense. Employee retention may be a particularly challenging issue in connection with the merger as employees of Veeco and FEI may experience uncertainty about their future role with the combined company until or after strategies with regard to the combined company are announced or executed. This circumstance may adversely affect the combined company's ability to attract and retain key management, sales, marketing and technical personnel.

Regulators may take action that could affect, delay or prohibit the merger or negatively affect the combined company and stockholders may not be able to change their vote in the event of any such action.

Veeco and FEI cannot complete the merger until they give notification and furnish information to the Federal Trade Commission and the Antitrust Division of the Department of Justice and observe a statutory waiting period under the HSR Act. Also, prior to completion of the merger, Veeco and FEI need to make filings with certain foreign competition authorities and comply with applicable foreign merger control laws. Veeco and FEI filed the required notification and report forms with the Federal Trade Commission and the Antitrust Division on July 19, 2002 and have made or intend to make filings with certain foreign antitrust authorities. If, prior to the expiration of the waiting period, the FTC or the Antitrust Division should request additional information or documentary material under the HSR Act, completion of the merger could be delayed until after the companies have substantially complied with the request. On August 12, 2002, the Antitrust Division of the Department of Justice contacted Veeco and FEI and has advised them that it intends to conduct a preliminary inquiry into the transaction. At any time before or

after the closing of the merger, the Federal Trade Commission, the Antitrust Division or any state or foreign competition authority could take any action under the applicable antitrust or competition laws as it deems necessary or desirable. There can be no assurances that regulators will terminate or allow the waiting period to expire without seeking additional information, or will not take action to prohibit the merger or condition the merger on restrictions that would negatively impact the combined company. Private parties and state attorneys general may also challenge the transaction and seek to enjoin the merger under U.S. or foreign antitrust laws under certain circumstances.

If the merger fails to qualify as a reorganization, FEI shareholders will recognize additional gains or losses in their FEI shares.

Veeco and FEI have structured the merger to qualify as a reorganization within the meaning of Section 368(a) of the Internal Revenue Code. If the merger takes place, but fails to qualify as a reorganization, an FEI shareholder will generally recognize gain or loss on each FEI share exchanged in the merger. The amount of the gain or loss will be equal to the amount of the difference between the shareholder's tax basis in that share and the consideration the FEI shareholder receives in exchange for that share as a result of the merger (with Veeco shares valued at their fair market value at the closing of the merger).

Charges to earnings resulting from the application of the purchase method of accounting may adversely affect the market price of Veeco FEI's common stock following the merger.

In accordance with United States generally accepted accounting principles, the combined company will account for the merger using the purchase method of accounting, which will result in charges to

earnings that could have a material adverse effect on the market price of the Veeco FEI common stock following completion of the merger. Under the purchase method of accounting, the combined company will allocate the total estimated purchase price to FEI's net tangible assets, amortizable intangible assets, intangible assets with indefinite lives and in-process research and development based on their fair values as of the date of completion of the merger, and record the excess of the purchase price over those fair values as goodwill. The portion of the estimated purchase price allocated to in-process research and development will be expensed by the combined company in the quarter in which the merger is completed. The combined company will incur additional depreciation and amortization expense over the useful lives of certain of the net tangible and intangible assets acquired in connection with the merger. Purchase accounting also requires fair valuation of assets that will result in the capitalization of profit in inventory and the loss of certain revenue and related deferred gross profit recorded in accordance with Staff Accounting Bulletin No. 101. In addition, to the extent the value of goodwill or intangible assets with indefinite lives become impaired, the combined company may be required to incur material charges relating to the impairment of those assets. These depreciation, amortization, in-process research and development and potential impairment charges could have a material impact on the combined company's results of operations.

Risks Related to the Combined Company

The following describes risks related to Veeco FEI the combined company following the merger. The Veeco stockholders and FEI shareholders will be stockholders of Veeco FEI following the merger.

The combined company will depend on the data storage, telecommunications/wireless, semiconductor and scientific research industries. Cyclicality in these markets may affect the combined company's business.

The combined company's business will depend in large part upon the capital expenditures of data storage, telecommunications/wireless, semiconductor and scientific research customers, which accounted for the following percentages of combined net sales of Veeco and FEI for the periods indicated:

	Year ended December 31,		Three months ended March 31,
	2000	2001	2002
Data storage	29%	23%	20%
Telecommunications/Wireless	12%	16%	10%
Semiconductor	31%	28%	29%

	Year ended December 31,		
Scientific Research and Industrial	28%	33%	41%

The data storage, telecommunications/wireless, semiconductor and scientific research 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 the combined company's customers, could have a material adverse effect on the combined company's business, prospects, financial condition and operating results.

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

Variations in the amount of time it takes for the combined company to sell its systems may cause fluctuations in the combined company's operating results which could negatively impact the combined company's stock price.

Historically, both Veeco and FEI have experienced long and unpredictable sales cycles. Variations in the length of the combined company's sales cycles could cause the combined company's net sales, and therefore its business, financial condition, operating results and cash flows, to fluctuate widely from period to period. These variations will be based upon factors partially or completely outside the combined company's control. The factors that could affect the length of time it takes the combined company to complete a sale will depend upon many elements, including:

- The efforts of the combined company's sales force and the combined company's independent sales representatives;
- The history of previous sales to a customer;
- The complexity of the customer's fabrication processes;
- The economic environment;
- The internal technical capabilities and sophistication of the customer; and
- The capital expenditure budget cycle of the customer.

As a result of these and a number of other factors that could influence sales cycles with particular customers, the period between initial contact with a potential customer and the time when the combined company recognizes revenue from that customer, if ever, may vary widely. The combined company's sales cycle could typically take up to twelve months. Sometimes the combined company's sales cycle will be much longer. For instance, during an economic downturn or when a sale involves developing new applications for a system or technology, the sales cycle could be significantly extended. To complete sales during an economic downturn or sales involving new applications or technologies, for example, the combined company could commit substantial resources to its sales efforts before receiving any revenue, and may never receive any revenue from a customer despite these sales efforts which could have a negative impact on the combined company's revenues.

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

For many of the combined company's products, after a customer has purchased one of the combined company's systems, the combined company will provide an acceptance period during which the customer may evaluate the performance of the system and potentially reject the system. In addition, customers will often evaluate the performance of the combined company's systems for a lengthy period before purchasing any additional systems. The number of additional products a customer may purchase, if any, will often depend on many factors that are difficult 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, will often vary widely,

and variations in length of this period could cause further fluctuations in the combined company's operating results.

The combined company's business and financial results for a particular period could be materially and adversely affected if orders are canceled or rescheduled or if an anticipated order for even one system is not received in time to permit shipping during the period.

Customers will continue to be able to cancel or reschedule orders, generally with limited or no penalties. The amount of purchase orders at any particular date, therefore, is not necessarily indicative of sales to be made in any succeeding period. In addition, the combined company will derive a

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

Because the combined company will not have long-term contracts with its customers, its customers may stop purchasing its products at any time which would adversely affect its results of operations.

Historically, neither Veeco nor FEI have had long-term contracts with their customers. Consequently, it is not currently anticipated that the combined company will have long-term contracts with its customers. Accordingly:

Customers can stop purchasing the combined company's products at any time without penalty;

Customers will be free to purchase products from the combined company's competitors;

The combined company will be exposed to competitive price pressure on each order; and

Customers will not be required to make minimum purchases.

If the combined company does not succeed in obtaining new sales orders from new or existing customers, it will have a negative impact on its results of operations.

The combined company will rely on a limited number of parts, components and equipment manufacturers. Failure of any of these suppliers to perform in a timely or quality manner could negatively impact revenues.

Failure of critical suppliers of parts, components and manufacturing equipment to deliver sufficient quantities to the combined company in a timely and cost-effective manner could negatively affect the combined company's business. Both Veeco and FEI currently use numerous vendors to supply parts, components and subassemblies for the manufacture and support of their respective products. However, some key parts may be obtained only from a single supplier or a limited group of suppliers. In particular, FEI relies on Philips' Enabling Technology Group, a wholly-owned subsidiary of Philips, and Frencken Group B.V. for its supply of mechanical parts and subassemblies and RIPA Holding B.V. as a sole source for some of its electronic subassemblies. As a result of this concentration of key suppliers, the combined company's results of operations may be materially and adversely affected if, in the future, it does not timely and cost-effectively receive a sufficient quantity of parts to meet its production requirements or if it is required to find alternative suppliers for these supplies. The combined company will not be immediately seeking to expand its supplier group or to reduce its dependence on single suppliers. From time to time, FEI has experienced supply constraints with respect to the mechanical parts and subassemblies produced by Philips Enabling Technologies Group. If Philips Enabling Technologies Group is not able to supply the combined company's requirements, these constraints may affect the combined company's ability to deliver products to customers in a timely manner, which could have an adverse effect on the combined company's results of operations. Moreover, as a result of the reduction of PBE's ownership of FEI common stock after FEI's most recent public offering of common stock in May 2001, the cost of the parts and subassemblies purchased by the combined company from Philips Enabling Technologies Group and Philips may increase.

The combined company will also rely on a limited number of equipment manufacturers to develop and supply the equipment it uses to manufacture its products. The failure of these manufacturers to develop or deliver equipment on a timely basis could have a material adverse effect on the combined company's business and results of operations. In addition, as a result of the small number of equipment suppliers, the combined company may be more exposed to future cost increases for this equipment.

Because Veeco and FEI have significant operations in countries outside of the United States, the combined company may be subject to political, economic and other conditions affecting such countries that could result in increased operating expenses and regulation of its products.

Because significant portions of Veeco's and FEI's operations occur outside the United States, the combined company's revenues will be impacted by foreign economic and regulatory environments. For

example, the combined company will have manufacturing facilities in Brno, Czech Republic and Eindhoven, Netherlands and sales offices in several other countries. In addition, approximately 35% of Veeco's sales and approximately 29% of FEI's sales in 2000 and approximately 28% of Veeco's sales and approximately 25% of FEI's sales in 2001 were derived from sales in Asia. In recent years, Asian economies have been highly volatile and recessionary, resulting in significant fluctuations in local currencies and other instabilities. Instabilities in Asian economies may continue and recur in the future, which could have a material adverse effect on the combined company's business, prospects, financial condition and operating results. The combined company's exposure to the business risks presented by Asian economies and other foreign economies will increase to the extent it continues to expand its global operations. International operations will continue to subject the combined company to a number of risks, including longer sales cycles; multiple, conflicting and changing governmental laws and regulations; protectionist laws and business practices that favor local companies; price and currency exchange controls; difficulties in collecting accounts receivable; and political and economic instability.

The combined company will be exposed to foreign currency exchange rate and interest rate risks that could adversely affect the revenues and gross margins of the combined company.

The combined company will be exposed to foreign currency exchange rate risks that will be inherent in its sales commitments, anticipated sales, and assets and liabilities that are denominated in currencies other than the United States dollar. The combined company also will be exposed to interest rate risks inherent in its debt and investment portfolios. Failure to sufficiently hedge or otherwise manage foreign currency risks properly could adversely affect the combined company's revenues and gross margins. A decrease in interest rates could adversely affect the combined company's interest income and results of operations.

The loss of one or more of Veeco's or FEI's key customers would result in the loss of a significant amount of the combined company's net revenues.

A relatively small number of customers account for a large percentage of Veeco's and FEI's net revenues. This situation is expected to continue for the combined company. The combined company's business will be seriously harmed if it does not generate as much revenue as it expects from these customers, experiences a loss of any of its significant customers or suffers a substantial reduction in orders from these customers. In 2001, Veeco's and FEI's two largest customers accounted for 16% and 13% of their respective net revenues.

The combined company's customers may be adversely affected by rapid technological change and the combined company may be unable to introduce new products on a timely basis.

The data storage, telecommunications/wireless, semiconductor and scientific research industries are subject to rapid technological change and new product introductions and enhancements. The combined company's ability to remain competitive will depend in part upon its 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 competitors could cause a decline in sales or loss of market acceptance of its existing products. Increased competitive pressure also could lead to intensified price competition resulting in lower margins, which could materially and adversely affect the combined company's business, prospects, financial condition and operating results. The combined company's success in developing, introducing and selling new and enhanced systems depends upon a variety of factors, including:

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 products under development and the equipment required to produce such products. The combined company cannot be certain that it will be successful in selecting, developing, manufacturing and marketing new products or in enhancing existing products.

The process of developing new high technology capital equipment products and services is complex and uncertain, and failure to anticipate customers' changing needs and emerging technological trends accurately and to develop or obtain appropriate intellectual property could significantly harm its results of operations. The combined company must make long-term investments and commit significant resources before knowing whether its predictions will eventually result in products that the market will accept. For example, FEI has invested significant resources in the development of 300 mm semiconductor wafer manufacturing technology. If 300 mm fabrication is not widely accepted or if the combined company fails to develop 300 mm products that are accepted by the marketplace, its long-term growth could be diminished. Further, after a product is developed, it must be able to manufacture sufficient volumes quickly and at low costs. To accomplish this, it must accurately forecast volumes, mix of products and configurations that meet customer requirements, and it may not succeed.

The combined company's quarterly operating results may fluctuate because of many factors, which would cause the combined company's stock price to fluctuate.

Both Veeco's and FEI's net revenues and operating results have fluctuated in the past and the combined company's net revenues and operating results are likely to fluctuate significantly in the future on a quarterly and annual basis due to a number of factors, many of which are outside either company's control. Investors should not rely on the results of any one quarter or series of quarters as an indication of the combined company's future performance.

It is likely that in some future quarter or quarters the combined company's operating results will be below the expectations of public market analysts or investors. In such event, the market price of the combined company's common stock may decline significantly.

Because the combined company will have larger revenues and operations, third parties with potential litigation claims against either Veeco or FEI who decided not to pursue those claims against the individual companies may consider asserting those claims against the combined company, which could adversely affect the combined company's results of operations.

The combined company is expected to have significantly greater revenues and assets than either Veeco or FEI individually, operations in more countries than either Veeco or FEI individually, and more employees than either Veeco or FEI individually. As a result, it can be expected that some third parties who believe that they have claims against Veeco or FEI, but who chose not to assert those claims because of the size of the individual companies, may now choose to pursue those claims against the larger combined company.

The combined company cannot be certain that it will be able to compete successfully in its highly competitive industries.

The industries in which the combined company will operate are intensely competitive. Established companies, both domestic and foreign, will compete with each of its product lines. Many of the combined company's competitors will have greater financial, engineering, manufacturing and marketing resources. 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, Veeco and FEI 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, the combined company will expect to experience difficulty selling to

that customer for a significant period of time. The combined company's ability to compete successfully will depend on a number of factors both within and outside the combined company's control, including:

Price;

Product quality;

Breadth of product line;

System performance;

Cost of ownership;

Global technical service and support; and

Success in developing or otherwise introducing new products.

The combined company cannot be certain that it will be able to compete successfully in the future.

The combined company could be subject to class action litigation due to stock price volatility, which, if it occurs, will distract management and result in substantial costs, and could result in judgments against the combined company.

In the past, securities class action litigation has often been brought against companies following periods of volatility in the market price of their securities. The combined company may be the target of similar litigation in the future. Securities litigation could result in substantial costs and divert management's attention and resources, which could cause serious harm to the combined company's business, financial condition and results of operations.

The combined company's revenues and selling, general and administrative expenses will suffer if it cannot continue to license or enforce the intellectual property rights on which its business will depend or if third parties assert that the combined company violates their intellectual property rights.

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

The combined company may also face greater exposure to claims of infringement in the future because PBE is no longer FEI's majority owner. As a result of PBE's reduction of ownership of FEI common stock in 2001, the combined company will not benefit from most of the Philips patent cross-licenses from which FEI benefited before that reduction.

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

The combined company is exposed to the risks that third parties may violate its proprietary rights and the combined company's intellectual property rights may not be well protected in foreign countries.

The combined company's success will depend on the protection of its proprietary rights. In the combined company's industry, intellectual property is an important asset that is always at risk of infringement. The combined company will incur costs to obtain and maintain patents and defend its intellectual property. The combined company will rely upon the laws of the United States and of other countries in which it develops, manufactures or sells products to protect its proprietary rights. However, these proprietary rights may not provide the competitive advantages that the combined company expects, or other parties may challenge, invalidate or circumvent these rights.

Further, the combined company's efforts to protect its 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. Veeco derived approximately 50% of its sales from foreign countries in 2000, and approximately 46% of its sales from foreign countries in 2001. FEI derived approximately 58% of its sales from foreign countries in 2000, and approximately 57% of its sales from foreign countries in 2001. If the combined company fails to adequately protect its intellectual property in these countries, it could be easier for its competitors to sell competing products.

Infringement of the combined company's proprietary rights by a third party could result in lost market and sales opportunities for the combined company, as well as increased costs of litigation.

The loss of key management or the combined company's inability to attract and retain sufficient numbers of managerial, engineering and other technical personnel could have a material adverse effect on its business.

The combined company's continued success will depend, in part, upon key managerial, engineering and technical personnel as well as its ability to continue to attract and retain additional personnel. In particular, the combined company will depend on its President and Chief Executive Officer, Edward H. Braun, and its Chairman and Chief Strategy Officer, Vahé A. Sarkissian. The loss of key personnel could have a material adverse effect on the combined company's business, prospects, financial condition or operating results. The combined company may not be able to retain its key managerial, engineering and technical employees. The combined company's growth will be dependent on its ability to attract new highly skilled and qualified technical personnel, in addition to personnel that can implement and monitor its financial and managerial controls and reporting systems. Attracting qualified personnel is difficult, and the combined company cannot assure you that its recruiting efforts to attract and retain these personnel will be successful.

The combined company will be substantially leveraged.

After consummation of the merger, the combined company will have significant indebtedness. At March 31, 2002, on a pro forma basis after giving effect to the consummation of the merger, the combined company would have had total consolidated long-term debt (including current maturities) of approximately $414 million.

The degree to which the combined company is leveraged could have important consequences to you including, but not limited to, the following:

Its ability to obtain additional financing in the future for working capital, capital expenditures, acquisitions, general corporate or other purposes may be limited;

A substantial portion of its cash flow from operations will be dedicated to the payment of the principal of, and interest on, its indebtedness; and

Its substantial leverage may make it more vulnerable to economic downturns, limit its ability to withstand competitive pressures and reduce its flexibility in responding to changing business and economic conditions.

The ability of Veeco FEI to pay interest and principal on its debt securities and to satisfy its other debt obligations and to make planned expenditures, will be dependent on its future operating performance, which could be affected by changes in economic conditions and other factors, including factors beyond its control. A failure to comply with the covenants and other provisions of its debt instruments could result in events of default under such instruments, which could permit acceleration of the debt under such instruments and in some cases acceleration of debt under other instruments that contain cross-default or cross-acceleration provisions. We believe that cash flow from operations will be sufficient to cover the combined company's debt service requirements and other requirements. However, if the combined company is at any time unable to generate sufficient cash flow from operations to service its indebtedness, it may be required to seek to renegotiate the terms of the instruments relating to that indebtedness, seek to refinance all or a portion of that indebtedness or to obtain additional financing. There can be no assurance that the combined company will be able to successfully renegotiate such terms, that any such refinancing would be possible or that any additional financing could be obtained on terms that are favorable or acceptable to the combined company.

The combined company will be subject to increased operational costs and other risks because PBE no longer owns a majority of FEI's common stock.

Before FEI's most recent public offering of common stock in May 2001, PBE's ownership interest in FEI fluctuated within a few percentage points of 50% of FEI's outstanding shares and PBE and its affiliates provided various services for, and engaged in a variety of transactions with FEI, some of which were upon terms more favorable to FEI than otherwise attainable in the general marketplace. On June 30, 2002, PBE beneficially owned approximately 25% of FEI's common stock. Because PBE is no longer FEI's majority shareholder, some of the tangible and intangible benefits and arrangements previously provided to FEI by Philips have terminated and some of these are in the process of being terminated. FEI will not have completed the replacement of all of its arrangements with Philips by the closing of the merger, and in some of

these areas the combined company may not be able to find replacement services at a similar or lower cost. Even if these services are available at a similar cost, indirect costs are associated with obtaining new vendors, including diversion of management time and resources.

Some of the specific types of increased costs the combined company may incur in the future include the following:

Intellectual Property. FEI had access to some forms of technology through cross-licenses between Philips and several manufacturers in the electronics industry, and some of FEI's patents are also subject to these cross-licenses. Some of these cross-licenses provided FEI with the right to use intellectual property that relates to its core technologies. In general, these cross-licenses were subject to majority ownership of FEI by PBE, and, because FEI is no longer majority owned by PBE, FEI has not been entitled to the benefits of these cross-licenses since May 22, 2001. Loss of the benefits of these cross-licenses has resulted or could result in the inability to use the previously licensed technology, the necessity of undertaking new licensing arrangements and paying royalties of an undetermined amount, or being subject to patent infringement actions. FEI cannot estimate the amount by which its operational costs will increase because of any potential required future royalty payments or possible litigation expenses.

Labor Costs. Because PBE is no longer FEI's majority shareholder, some of FEI's non-U.S. employees were required to become part of new collective bargaining units, and pension funds of FEI's employees that were held within Philips' pension funds were transferred to new pension funds. For the past several years, Philips' pension fund has been in an overfunded position

because the value of its pension assets has exceeded the pension benefit obligations. During that time, Philips and its majority owned subsidiaries, including FEI, benefited from reduced pension contribution obligations and reduced pension expense. After FEI's employees were transferred out of the Philips pension plan effective September 1, 2001, FEI's pension costs in the Netherlands have increased by approximately $3.5 million per year, due to FEI's loss of the benefit of the overfunding and the terms of the new collective bargaining arrangements. FEI's pension costs are expected to increase by approximately $2.3 million in 2002 compared to 2001.

Research and Development. When PBE owned a majority of FEI, FEI entered into research and development contracts with Philips' research laboratories to purchase research and development services at below market rates. The combined company expects to continue to contract for research and development services from Philips in areas related to the combined company's business, but as a result of Philips' ownership of FEI's common stock falling below 45% following FEI's stock offering on May 22, 2001, the rates that Philips charges for research and development have increased. In 2001, FEI paid Philips $3.2 million for contract research and development services. Beginning January 1, 2002, the hourly rate for research and development services provided by Philips to FEI has increased by approximately 40%.

Purchases Under Philips Arrangements and Terms. From time to time, FEI purchased materials, supplies and services under collective purchase agreements and purchase conditions negotiated by Philips for the benefit of its group of companies. These arrangements generally began to terminate on May 22, 2001. The benefits to FEI of these arrangements cannot be calculated precisely, but FEI believes that the costs of procuring these goods and services on a stand alone basis are higher than the costs under the Philips arrangements.

Other Costs. FEI also has a variety of other arrangements with Philips, such as use of the Philips intranet system for various functions, participation in purchasing programs and use of various administrative services. Most of these arrangements will change because PBE no longer owns a majority of FEI's common stock, and some of these changes will result in additional increased costs to FEI's business.

Payments by Philips. Philips had agreed to make certain payments to FEI to offset certain of the increased costs described above incurred by FEI as a result of the termination of certain benefits and arrangements provided by Philips. These payments have been recorded by FEI as a reduction in costs and operating expenses. FEI recognized $1.4 million of these payments as a reduction in expense in 2001, and $0.6 million of these payments as a reduction in expense in the thirteen weeks ended March 31, 2002. Upon the consummation of the merger, Philips will have no obligation to make any more of these payments, and the combined company will not recognize the reduction in expense following the merger date.

PBE will have significant influence on all combined company stockholder votes and may have different interests than other combined company's stockholders.

PBE will own approximately 15% of the outstanding Veeco FEI common stock after the merger. As a result, PBE will have significant influence on matters submitted to the combined company's stockholders, including proposals regarding:

Any merger, consolidation or sale of all or substantially all of the combined company's assets;

The election of members of Veeco FEI's board of directors; and

A change of control of the combined company.

In addition to its significant influence, PBE's interests may be significantly different from the interests of other owners of the combined company's common stock, holders of the combined company's options to purchase common stock and holders of the combined company's debt securities.

Under the investor agreement, PBE will also have the right to nominate a member of the combined company's board of directors for a certain period of time.

Terrorist acts and acts of war may seriously harm the combined company's business and revenues, costs and expenses and financial condition.

Terrorist acts or acts of war (wherever located around the world) may cause damage or disruption to the combined company, its employees, facilities, partners, suppliers, distributors and customers, which could significantly impact its revenues, costs and expenses and financial condition. The terrorist attacks that took place in the United States on September 11, 2001 were unprecedented events that have created many economic and political uncertainties, some of which may materially harm the combined company's business and results of operations. The potential for future terrorist attacks, the national and international responses to terrorist attacks, and other acts of war or hostility have created many economic and political uncertainties, which could adversely affect the business and results of operations of the combined company in ways that cannot presently be predicted. The combined company will be largely uninsured for losses and interruptions caused by terrorist acts and acts of war.

Unforeseen environmental costs could impact the future net earnings of the combined company.

Some of the combined company's operations will use substances regulated under various federal, state and international laws governing the environment. The combined company could be subject to liability for remediation if it does not handle these substances in compliance with applicable laws. It will be the combined company's policy to apply strict standards for environmental protection to sites inside and outside the United States, even when not subject to local government regulations. The combined company will record a liability for environmental remediation and related costs when it considers the costs to be probable and the amount of the costs can be reasonably estimated.

Veeco FEI's organizational documents will have anti-takeover provisions that might, among other things, discourage, prevent or delay a change of control of Veeco FEI that a holder of Veeco FEI stock might consider in its best interest.

Veeco FEI's board of directors will continue to have the authority to issue up to 500,000 shares of "blank check" preferred stock and to fix the rights, preferences, privileges and restrictions, including voting rights, of these shares without any further vote or action by Veeco FEI's stockholders. 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 Veeco FEI common stock. The issuance of the preferred stock, while providing Veeco FEI with desirable flexibility in connection with possible acquisitions and other corporate purposes, could have the effect of making it more difficult for a third party to acquire a majority of Veeco FEI's outstanding voting stock. This could delay, defer or prevent a change of control of Veeco FEI that a holder of Veeco FEI common stock might consider in its best interests. Furthermore, such preferred stock may have other rights including economic rights senior to Veeco FEI common stock, and as a result, the issuance of the preferred stock could have a material adverse effect on the market value of Veeco FEI common stock. Veeco FEI has no present plan to issue shares of preferred stock.

Veeco FEI's board of directors will continue to be divided into three classes of directors with staggered terms. Directors will be elected to three-year terms and the term of one class of directors will expire each year. The existence of a classified board of directors is designed to provide continuity and stability to Veeco FEI's management, which results from directors serving for three-year, rather than one-year terms. The existence of a classified board of directors may make it more difficult for a third party to acquire control of Veeco FEI in certain instances. This could delay, defer or prevent a change of control that a holder of Veeco FEI common stock might consider in its best interest. Further, if Veeco stockholders are dissatisfied with the policies and/or decisions of Veeco FEI's board of directors, the existence of a classified board of directors will make it more difficult for the stockholders to change

the composition (and therefore the policies) of Veeco FEI's board of directors in a relatively short period of time.

Veeco FEI will continue Veeco's rights plan, commonly called a "poison pill." This could make it more difficult for a third party to acquire control of Veeco FEI in certain circumstances. This could also delay, defer or prevent a change of control that a Veeco FEI stockholder might consider in its best interests.

Also, certain other provisions in Veeco's Amended and Restated Certificate of Incorporation will continue to be in Veeco FEI's Amended and Restated Certificate of Incorporation and bylaws relating to:

Actions required to be taken at a meeting of stockholders; and

The percentage of stockholders required to call a special meeting of stockholders,

which may delay, defer or prevent a takeover attempt that a holder of Veeco FEI common stock might consider in its best interest.

Furthermore, Veeco FEI may in the future adopt other measures that may have the effect of delaying, deferring or preventing a change of control of Veeco FEI. Certain of these measures may be adopted without any further vote or action by the holders of Veeco FEI common stock.

Risks Related to the Failure of Veeco's Stockholders to Approve the Change of Corporate Name Amendment to Veeco's Amended and Restated Certificate of Incorporation

Veeco may be deemed to be in violation of contractual arrangements including the merger agreement.

If Veeco's stockholders do not approve the proposed amendment to Veeco's Amended and Restated Certificate of Incorporation to change the name of Veeco Instruments Inc. to Veeco FEI Inc., then Veeco could be deemed to be in violation of contractual provisions in the merger agreement which, if deemed material, could give rise to FEI's right to terminate the merger agreement. In the case of such a termination by FEI, Veeco could be required to pay FEI's fees and expenses, up to $5 million, incurred in connection with the merger agreement and the merger.

SELECTED HISTORICAL AND UNAUDITED PRO FORMA CONSOLIDATED FINANCIAL DATA OF VEECO AND FEI

The following information is being provided to assist you in analyzing the financial aspects of the merger.

The historical selected financial information for Veeco for the three months ended March 31, 2002 and March 31, 2001 was derived from the unaudited consolidated financial statements included in Veeco's quarterly report on Form 10-Q for the quarterly period ended March 31, 2002 incorporated by reference into this joint proxy statement/prospectus. The historical data presented for Veeco for the three months ended March 31, 2002 and 2001 is unaudited and, in the opinion of Veeco's management, includes all adjustments, consisting of normal recurring adjustments, necessary for the fair presentation of such data. Veeco's historical results for the three months ended March 31, 2002 are not necessarily indicative of the results to be expected for the fiscal year ending December 31, 2002. The historical selected statement of operations data for Veeco for the fiscal years ended December 31, 2001, 2000, 1999, 1998 and 1997 and the historical balance sheet data of Veeco as of

December 31, 2001, 2000, 1999, 1998 and 1997 was derived from the historical audited consolidated financial statements of Veeco incorporated by reference into this joint proxy statement/prospectus.

The historical selected financial information for FEI for the thirteen weeks ended March 31, 2002 and April 1, 2001 was derived from the unaudited consolidated financial statements included in FEI's quarterly report on Form 10-Q for the quarterly period ended March 31, 2002 incorporated by reference in this joint proxy statement/prospectus. The historical data presented for FEI for the thirteen weeks ended March 31, 2002 and April 1, 2001 is unaudited and, in the opinion of FEI's management, includes all adjustments, consisting of normal recurring adjustments, necessary for the fair presentation of such data. FEI's historical results for the thirteen weeks ended March 31, 2002 are not necessarily indicative of the results to be expected for the fiscal year ending December 31, 2002. The historical selected statement of operations data for FEI for the fiscal years ended December 31, 2001, 2000 and 1999 and the historical consolidated balance sheet data of FEI as of December 31, 2001 and 2000 was derived from the historical audited consolidated financial statements of FEI incorporated by reference into this joint proxy statement/prospectus. The historical selected statement of operations data for FEI for the fiscal years ended December 31, 1998 and 1997 and the historical balance sheet data for FEI as of December 31, 1999, 1998 and 1997 have been derived from FEI's historical financial statements, which are not incorporated by reference into this joint proxy statement/prospectus.

The selected unaudited pro forma consolidated financial data is based upon the historical consolidated financial statements and notes thereto (as applicable) of Veeco and FEI, which are incorporated by reference herein. The selected unaudited pro forma consolidated balance sheet data gives pro forma effect to the merger as if it had been consummated on March 31, 2002 and combines Veeco's March 31, 2002 unaudited consolidated balance sheet with FEI's March 31, 2002 unaudited consolidated balance sheet. The selected unaudited pro forma consolidated statements of operations data give pro forma effect to the merger as if it had been consummated on January 1, 2001 and combine Veeco's consolidated statement of operations for the year ended December 31, 2001 with FEI's consolidated statement of operations for the year ended December 31, 2001 and Veeco's unaudited consolidated statements of operations for the three months ended March 31, 2001 and 2002, respectively, with FEI's unaudited consolidated statements of operations for the thirteen weeks ended April 1, 2001 and March 31, 2002, respectively. The pro forma adjustments are subject to change pending a final analysis of fair values of the assets acquired and liabilities assumed. The impact of these changes could be material.

In addition, on September 17, 2001, a wholly-owned subsidiary of Veeco merged with and into Applied Epi, Inc. of St. Paul, Minnesota. As a result of that merger, Applied Epi became a wholly-owned subsidiary of Veeco. The selected unaudited pro forma consolidated statement of operations

data for the three months ended March 31, 2001 and for the year ended December 31, 2001 give effect to the acquisition of Applied Epi by Veeco as if it occurred on January 1, 2001.

The selected unaudited pro forma consolidated financial data is derived from the unaudited pro forma consolidated financial statements included elsewhere herein and should be read in conjunction with those statements and notes thereto. See the section titled "Unaudited Pro Forma Consolidated Financial Statements." The selected unaudited pro forma consolidated financial data is based upon the estimates and assumptions set forth in the introduction and notes to the Unaudited Pro Forma Consolidated Financial Statements included elswhere herein. The pro forma adjustments (including estimates and assumptions) made in connection with the preparation of the pro forma information are preliminary and have been made solely for purposes of preparing such pro forma information for illustrative purposes necessary to comply with the disclosure requirements of the SEC. The selected unaudited pro forma consolidated financial data does not purport to be indicative of the results of operations for future periods or the consolidated financial position or results that actually would have been realized had Veeco and FEI been a single entity during these periods. The selected unaudited pro forma consolidated financial data does not give effect to any synergies, cost savings, or integration costs that may result from the integration of Veeco's and FEI's businesses. Costs associated with the Veeco FEI transaction related to restructuring and integration have not yet been determined. In addition, FEI's operating costs have increased and may further increase due to the termination (and expected termination) of some of the tangible and intangible benefits and arrangements provided to FEI by Philips. Certain of these benefits and arrangements terminated prior to March 31, 2002 and a portion of these increased costs resulting therefrom have already been incurred by FEI. FEI has also received payments described herein from Philips which have offset certain of these increased costs and have been recorded by FEI as a reduction in costs and operating expenses. The selected unaudited pro forma consolidated financial data excludes the effect of a portion of the additional operating costs which may be incurred in connection with the termination of certain arrangements between FEI and Philips which costs cannot be reasonably estimated at this time. In addition, the selected unaudited pro forma consolidated data exclude the effect of a portion of the increased additional pension costs of FEI which will be incurred in connection with the new collective bargaining agreements which took effect September 1, 2001. For more information concerning these additional costs, see the section titled "Risk Factors The combined company will be subject to increased operational costs and other risks because PBE no longer owns a majority of FEI's common stock."

The following information should be read in conjunction with the historical financial statements and related notes contained in the annual, quarterly and other reports filed by Veeco and FEI with the SEC. See the section titled "Where You Can Find More Information" beginning on page 126.

VEECO INSTRUMENTS INC. AND SUBSIDIARIES
SELECTED HISTORICAL CONSOLIDATED FINANCIAL DATA
(Dollars in thousands, except per share data)

	Three months ended March 31,		Year ended December 31,				
	2002	**2001**	**2001**	**2000**	**1999**	**1998**	**1997**
Statement of Operations Data (1), (2), (3):							
Net sales	$ 80,149	$ 125,386	$ 449,251	$ 376,113	$ 312,446	$ 263,411	$ 266,551
Cost of sales	46,414	66,696	260,148(4)	219,578(5)	164,783	145,286	142,518
Gross profit	33,735	58,690	189,103	156,535	147,663	118,125	124,033
Costs and expenses	36,162	39,083	154,114	131,469	102,880	88,113	78,589
Merger and restructuring expenses	837(6)		3,046(4)	14,206(5)	2,600(7)	7,500(7)	2,250(7)
Write-off of purchased in-process technology			8,200(4)		2,474(8)		4,200(8)
Write-off of deferred charges						675	
Asset impairment charge			3,418(4)	3,722(5)			
Operating (loss) income	(3,264)	19,607	20,325	7,138	39,709	21,837	38,994
Interest expense (income), net	1,486	(767)	(577)	(1,307)	(695)	2,185	715
(Loss) income from continuing operations before income taxes cumulative effect of change in accounting principle	(4,750)	20,374	20,902	8,445	40,404	19,652	38,279
Income tax (benefit) provision	(1,598)	7,158	6,020	5,780	15,302	6,012	9,393
(Loss) income from continuing operations before cumulative effect of change in accounting principle	(3,152)	13,216	14,882	2,665	25,102	13,640	28,886
Discontinued Operations:							
Loss from operations, net of taxes		(343)	(2,450)	(2,163)	(1,387)	(3)	(225)
Loss on disposal, net of taxes	(346)		(2,123)		(1,734)		
Loss from discontinued operations, net of taxes	(346)	(343)	(4,573)	(2,163)	(3,121)	(3)	(225)
Cumulative effect of change in accounting principle, net of income taxes (9)				(18,382)			
Net (loss) income	$ (3,498)	$ 12,873	$ 10,309	$ (17,880)	$ 21,981(9)	$ 13,637(9)	$ 28,661
Earnings per share:							
(Loss) income per common share from continuing operations before cumulative effect of change in	$ (0.11)	$ 0.54	$ 0.57	$ 0.11	$ 1.22	$ 0.73	$ 1.57

	Three months ended March 31,		Year ended December 31,				
accounting principle							
Loss from discontinued operations	(0.01)	(0.02)	(0.17)	(0.09)	(0.15)	(0.00)	(0.01)
Cumulative effect of change in accounting principle				(0.77)			
Net (loss) income per common share	$ (0.12)	$ 0.52	$ 0.40	$ (0.75)	$ 1.07(10)	$ 0.73(10)	$ 1.56
Diluted (loss) income per common share from continuing operations before cumulative effect of change in accounting principle	$ (0.11)	$ 0.52	$ 0.56	$ 0.11	$ 1.17	$ 0.70	$ 1.49
Loss from discontinued operations	(0.01)	(0.01)	(0.17)	(0.09)	(0.15)	(0.00)	(0.01)
Cumulative effect of change in accounting principle				(0.73)			
Diluted net (loss) income per common share	$ (0.12)	$ 0.51	$ 0.39	$ (0.71)	$ 1.02(10)	$ 0.70(10)	$ 1.48
Weighted average shares outstanding	29,021	24,678	25,937	23,805	20,604	18,775	18,430
Diluted weighted average shares outstanding	29,021	25,230	26,355	25,128	21,461	19,436	19,424

	As of March 31, 2002	As of December 31, 2001	2000	1999	1998	1997
Balance Sheet Data (1), (2), (3):						
Cash, cash equivalents and short-term investments	$ 219,108	$ 203,154	$ 90,314	$ 80,739	$ 23,599	$ 23,307
Working capital	367,244	358,023	220,463	171,977	97,977	79,742
Excess of cost over net assets acquired, net	125,585	125,585	9,481	6,500	4,187	4,318
Total assets	753,606	755,519	422,525	338,744	213,177	204,035
Long-term debt (including current installments)	238,511	219,063	16,062	38,704	35,865	26,971
Stockholders' equity	420,406	423,971	282,908	223,944	127,719	107,575

(1) During December 2001, Veeco classified its industrial measurement operating segment as a discontinued operation. The Consolidated Statements of Operations and Balance Sheet data for all years presented have been restated to reflect this. See Note 7 to the consolidated financial statements included in Veeco's Annual Report on Form 10-K for the fiscal year ended December 31, 2001, incorporated by reference herein.

(2) Prior to Veeco's merger with CVC, Inc. on May 5, 2000, CVC's fiscal year end was September 30. Therefore the Statement of Operations data for all years presented through 1999 was derived from CVC's financial statements for the respective twelve month periods ended September 30. In addition, the Balance Sheet Data through 1999 was derived from CVC's September 30 balance sheets.

(3) Prior to Veeco's merger with Ion Tech, Inc. on November 4, 1999, Ion Tech's fiscal year end was June 30. In connection with the merger, the financial results of Ion Tech were recast for 1998 to conform to Veeco's December 31 year end. For the year ended December 31, 1997, historical results include those for Ion Tech's fiscal year ended June 30, 1998, thus resulting in six months of 1998 activity in the 1997 results of operations.

(4) Veeco incurred merger and restructuring charges of $28.2 million during the year ended December 31, 2001. Of these charges, $13.6 million related to the write-off of inventory (included in cost of sales), $8.2 million related to the write-off of purchased in-process technology ($7.0 million resulting from the acquisition of Applied Epi, Inc. and $1.2 million from the acquisition of Thermo Microscopes Corp.), $3.0 million represented restructuring

costs and $3.4 million was for the write-down of long-lived assets. See Note 7 to Veeco's consolidated financial statements included in Veeco's Annual Report on Form 10-K for the fiscal year ended December 31, 2001, incorporated by reference herein.

(5)

Veeco incurred merger and reorganization charges of $33.3 million during the year ended December 31, 2000, of which $33.0 million related to the merger with CVC. Of these charges, $15.3 million related to a write-off of inventory (included in cost of sales), $14.0 million represented merger and reorganization costs (of which $9.2 million related to investment banking, legal and other one-time transaction costs and $4.8 million pertained to duplicate facility and personnel costs) and $3.7 million was for the write-off of long-lived assets. See Note 2 to Veeco's consolidated financial statements included in Veeco's Annual Report on Form 10-K for the fiscal year ended December 31, 2001, incorporated by reference herein.

(6)

Veeco incurred restructuring expense of $0.8 million during the three months ended March 31, 2002 related to the cost reduction efforts that were initiated during the fourth quarter of 2001.

(7)

During 1999, Veeco recorded charges of $2.6 million related to merger expenses in connection with the merger with Ion Tech. In 1998, Veeco recorded merger and reorganization expenses of $7.5 million related to the merger with Digital Instruments, Inc. During 1997, Veeco incurred $2.3 million of merger expenses in conjunction with the merger with Wyko Corporation.

(8)

During 1999, Veeco recorded a $2.5 million charge related to the write-off of purchased in-process technology ($1.3 million related to the acquisition of OptiMag, Inc. and $1.2 million related to CVC's acquisition of Commonwealth Scientific Corporation). During 1997, Veeco recorded a $4.2 million charge related to the write-off of purchased in-process technology in connection with the acquisition of physical vapor deposition assets.

(9)

Effective January 1, 2000, Veeco changed its method of accounting for revenue recognition in accordance with Staff Accounting Bulletin No. 101. See Note 1 to the audited consolidated financial statements contained in Veeco's Annual Report on Form 10-K for the fiscal year ended December 31, 2001, incorporated by reference herein.

(10)

Veeco adopted Staff Accounting Bulletin No. 101 effective January 1, 2000. Had this adoption taken place on January 1, 1998, net income, net income per common share and diluted net income per common share on a pro forma basis for 1999 and 1998 would have been as follows:

	1999	1998
Net income	$ 13,695	$ 12,682
Net income per common share	$ 0.66	$ 0.68
Diluted net income per common share	$ 0.64	$ 0.65

FEI COMPANY
SELECTED HISTORICAL CONSOLIDATED FINANCIAL DATA
(Dollars in thousands, except per share data)

	Thirteen weeks ended March 31, 2002	Thirteen weeks ended April 1, 2001	Year ended December 31, 2001	2000	1999	1998	1997
Statements of Operations Data:							
Net sales	$ 84,498	$ 93,515	$ 376,004	$ 320,300	$ 216,152	$ 178,771	$ 168,796
Cost of sales	44,652	48,572	193,612	183,178	131,143	119,579	106,629
Gross profit	39,846	44,943	182,392	137,122	85,009	59,192	62,167
Total operating expenses(1)	29,278	28,059	123,318	100,602	87,524	68,768	95,040
Operating income (loss)	10,568	16,884	59,074	36,520	(2,515)	(9,576)	(32,873)
Other expense, net(2)	1,234	195	4,074	1,637	65	4,129	622

	Thirteen weeks ended March 31, 2002	Thirteen weeks ended April 1, 2001	Year ended December 31,				
Income (loss) before taxes and cumulative effect of change in accounting principle	9,334	16,689	55,000	34,883	(2,580)	(13,705)	(33,495)
Income tax expense (benefit)	3,407	6,466	22,494	14,073	4,800	(4,797)	3,107
Income (loss) before cumulative effect of change in accounting principle	5,927	10,223	32,506	20,810	(7,380)	(8,908)	(36,602)
Cumulative effect of change in accounting principle(3)				(7,499)			
Net income (loss)	$ 5,927	$ 10,223	$ 32,506	$ 13,311	$ (7,380)	$ (8,908)	$ (36,602)
Earnings per share:							
Basic:							
Income (loss) before cumulative effect of change in accounting principle per share	$ 0.18	$ 0.36	$ 1.06	$ 0.74	$ (0.34)	$ (0.49)	$ (2.19)
Cumulative effect of change in accounting principle per share(3)				(0.27)			
Net income (loss) per share	$ 0.18	$ 0.36	$ 1.06	$ 0.47	$ (0.34)	$ (0.49)	$ (2.19)
Diluted:							
Income (loss) before cumulative effect of change in accounting principle per share	$ 0.18	$ 0.34	$ 1.02	$ 0.70	$ (0.34)	$ (0.49)	$ (2.19)
Cumulative effect of change in accounting principle per share(3)				(0.25)			
Net income (loss) per share	$ 0.18	$ 0.34	$ 1.02	$ 0.45	$ (0.34)	$ (0.49)	$ (2.19)
Weighted average shares outstanding:							
Basic	32,126	28,686	30,563	28,091	21,745	18,106	16,677
Diluted	33,477	29,976	31,986	29,827	21,745	18,106	16,677

	As of March 31, 2002	As of December 31,				
		2001	2000	1999	1998	1997
Balance Sheet Data:						
Cash and cash equivalents	$ 169,760	$ 176,862	$ 24,031	$ 11,124	$ 15,198	$ 16,394
Working capital	332,149	349,024	91,175	84,957	70,350	64,496
Total assets	609,890	607,476	314,823	288,100	191,138	183,022
Long-term interest-bearing debt	175,000	175,000	25,674	36,012	26,349	17,844
Shareholders' equity	302,961	296,516	168,289	152,577	97,627	104,889

(1) Included in 1997 total operating expenses is a charge of $38.0 million to write off in-process research and development in connection with the acquisition of the Philips electron optics business and a restructuring charge of $2.5 million incurred in connection with consolidating FEI's Massachusetts operations. Included in 1998 operating expenses is a restructuring charge of $5.3 million undertaken to consolidate operations, eliminate redundant facilities, reduce operating expenses and provide for outsourcing of certain manufacturing activities. Included in 1999 operating expenses is a charge of $14.1 million to write off acquired in-process research

and development in connection with the acquisition of Micrion Corporation in August 1999 and a restructuring charge of $0.1 million. Included in 2001 operating expenses is a charge of $3.4 million to write off acquired in-process research and development in connection with acquisitions.

(2) Included in 1998 other expense, net is a valuation charge of $3.3 million taken to reduce the carrying value of a cost method investment. Included in 2001 other expense, net is a valuation charge of $3.7 million to adjust the carrying value of FEI's cost method investment in Surface Interface, Inc. to reflect the price FEI paid to acquire the rest of Surface/Interface in 2001.

(3) Effective January 1, 2000, FEI changed its method of accounting for revenue recognition in accordance with Staff Accounting Bulletin No. 101. See Note 1 to the audited consolidated financial statements contained in FEI's 2001 annual report on Form 10-K.

SELECTED UNAUDITED PRO FORMA CONSOLIDATED FINANCIAL DATA
(Dollars in thousands, except per share data)
(unaudited)

	Year ended December 31,	Quarter ended March 31,	
	2001	2001	2002
Statement of Operations Data:			
Net sales	$ 858,455	$ 227,380	$ 164,647
Cost of sales	469,982	120,039	91,066
Gross profit	388,473	107,341	73,581
Costs and expenses	314,410	81,322	72,658
Reorganization expense	3,046		837
Asset impairment charge	7,136		
Write-off of purchased in-process technology	4,638		
Operating income	59,243	26,019	86
Interest expense (income), net	2,163	(145)	2,366
Income (loss) before income taxes	57,080	26,164	(2,280)
Income tax provision (benefit)	18,986	9,809	(593)
Income (loss) from continuing operations	$ 38,094	$ 16,355	$ (1,687)
Earnings per share:			
Income (loss) per common share	$ 0.52	$ 0.23	$ (0.02)
Diluted income (loss) per common share	$ 0.50	$ 0.22	$ (0.02)
Weighted average shares outstanding	73,715	72,455	72,915
Diluted weighted average shares outstanding	76,287	75,062	72,915

	As of March 31, 2002
Balance Sheet Data:	
Cash, cash equivalents and short-term investments	$ 476,120
Working capital	706,647
Excess of cost over net assets acquired, net	600,452
Total assets	2,011,982
Long-term debt (including current installments)	413,614
Stockholders' equity	1,262,274

COMPARATIVE PER SHARE DATA
(Unaudited)

The following table sets forth:

Certain historical per share data of Veeco and FEI; and

Unaudited pro forma combined per share data of Veeco and FEI based on a conversion ratio in the merger of 1.355 shares of Veeco common stock for each share of FEI common stock. This data should be read in conjunction with the selected financial data, the historical consolidated financial statements of Veeco and FEI and the notes thereto which are incorporated by reference in this joint proxy statement/prospectus. The pro forma combined and equivalent pro forma financial data are not necessarily indicative of the operating results or financial position that would have been achieved had the merger been consummated at the beginning of the periods presented, and should not be construed as indicative of future operations. Neither Veeco nor FEI has ever declared or paid cash dividends on its shares of capital stock.

	Year Ended December 31, 2001	Quarter Ended March 31, 2002
Historical Veeco:		
Income (loss) per common share from continuing operations	$ 0.57	$ (0.11)
Diluted income (loss) per common share from continuing operations	$ 0.56	$ (0.11)
Book value per share(1)	$ 14.62	$ 14.48
Historical FEI:		
Income per common share from continuing operations	$ 1.06	$ 0.18
Diluted income per common share from continuing operations	$ 1.02	$ 0.18
Book value per share(1)	$ 9.25	$ 9.39
Pro Forma Combined:		
Income (loss) per common share from continuing operations	$ 0.52	$ (0.02)
Diluted income (loss) per common share from continuing operations	$ 0.50	$ (0.02)
Book value per share(2)	$ 17.41	$ 17.35
Equivalent Pro Forma FEI(3):		
Income (loss) per common share from continuing operations	$ 0.70	$ (0.03)
Diluted income (loss) per common share from continuing operations	$ 0.68	$ (0.03)
Book value per share	$ 23.59	$ 23.50

(1) Historical book value per share is computed by dividing stockholders' equity by the number of shares of Veeco or FEI common stock outstanding at the end of each period.

(2) Pro forma combined book value per share is computed by dividing pro forma stockholders' equity by the sum of (a) the number of shares of Veeco common stock outstanding at the end of the period and (b) FEI common stock outstanding at the end of the period multiplied by 1.355.

(3)

Equivalent Pro Forma FEI per share amounts are calculated by multiplying pro forma combined per share amounts by the exchange ratio in the merger of 1.355 shares of Veeco common stock for each share of FEI common stock.

THE VEECO SPECIAL MEETING

Date, Time and Place of Veeco Special Meeting

The Veeco special meeting will be held at 9:30 a.m. (local time), on , , 2002, at the Corporate Center, 395 North Service Road, Melville, New York.

Purpose

The purpose of the Veeco special meeting is to approve both the issuance of Veeco common stock in the merger and the proposals to amend Veeco's Amended and Restated Certificate of Incorporation to increase the number of Veeco's authorized shares of common stock from 60,000,000 to 175,000,000 and to change the name of Veeco Instruments Inc. to Veeco FEI Inc.

Record Date and Outstanding Shares

Only holders of record of Veeco common stock at the close of business on , 2002, the Veeco record date, are entitled to notice of, and to vote at, the Veeco special meeting. As of the Veeco record date, there were approximately Veeco stockholders of record holding an aggregate of approximately shares of Veeco common stock.

On or about , 2002, this joint proxy statement/prospectus, which includes a notice satisfying the applicable requirements of Delaware law, is being mailed to all Veeco stockholders of record as of the Veeco record date.

Voting and Solicitation

At the Veeco special meeting, each Veeco stockholder will be entitled to one vote for each share of Veeco common stock held by it. Under Veeco's bylaws, the presence of the holders of at least 50% of all of the Veeco common stock entitled to vote, whether present in person or by proxy, at Veeco's special meeting, shall constitute a quorum for the transaction of business at Veeco's special meeting.

Under applicable rules of The Nasdaq National Market, if a quorum is present, the affirmative vote of a majority of the votes cast, whether in person or by proxy, at Veeco's special meeting, is required to approve the issuance of Veeco common stock in connection with the merger. Under the Delaware General Corporation Law, the affirmative vote of the holders of a majority of the outstanding shares of Veeco common stock entitled to vote, whether in person or by proxy, is required to approve the amendments to Veeco's Amended and Restated Certificate of Incorporation to increase the number of authorized shares of Veeco common stock from 60,000,000 to 175,000,000 and to change the name of Veeco Instruments Inc. to Veeco FEI Inc.

Shares of Veeco common stock that are voted "FOR," "AGAINST" or "ABSTAIN" with respect to a matter, or are broker non-votes, will be treated as being present at the Veeco special meeting for purposes of establishing a quorum. For purposes of voting upon the approval of the amendments to Veeco's Amended and Restated Certificate of Incorporation, the effect of an abstention or a broker non-vote is the same as a vote against the proposal.

To vote by proxy, you should complete your proxy card and mail it in the enclosed postage prepaid envelope.

If your shares are held in an account at a brokerage firm or bank, you must direct them on how to vote your shares. Your broker or bank will vote your shares only if you provide directions on how to vote by following the instructions provided to you by your broker or bank.

The holders of approximately 12.8% of Veeco's outstanding common stock, as of June 30, 2002, have entered into voting agreements with FEI under which they have agreed to vote their shares of Veeco common stock in favor of approval of the issuance of Veeco common stock to FEI shareholders in the merger and the approval of the amendment to Veeco's Amended and Restated Certificate of Incorporation to increase the authorized shares of Veeco's common stock. These Veeco stockholders, however, may vote their Veeco shares in favor of a Superior Veeco Proposal or related Veeco Acquisition Transaction. Such Veeco stockholders include certain executive officers and directors of Veeco and Chorus, L.P., Veeco's largest stockholder. These Veeco stockholders have also granted FEI irrevocable proxies to vote their Veeco common stock in this manner. See the section titled "Other Agreements Voting Arrangements with Veeco Stockholders" on page 96.

All valid proxies received prior to the Veeco special meeting will be voted. All shares represented by a proxy will be voted, and where a stockholder specifies by means of the proxy a choice ("FOR," "AGAINST" or "ABSTAIN") with respect to any matter to be acted upon, the shares will be voted in accordance with the specification so made. **If no choice is made on the proxy, the shares will be voted "FOR" the issuance of Veeco common stock in the merger and "FOR" the approval of the proposed amendments to Veeco's Amended and Restated Certificate of Incorporation (other than broker non-votes, which shares will not be voted).**

The cost of this solicitation to Veeco stockholders will be borne by Veeco. Veeco has retained Georgeson to solicit proxies. Georgeson may contact Veeco stockholders by mail, telephone, telex, telegraph and personal interviews. Georgeson will receive from Veeco a fee of $9,000 for its services, plus reimbursement of out-of-pocket expenses. Veeco has agreed to indemnify Georgeson against certain liabilities and expenses in connection with such solicitation, including liabilities under the federal securities laws. In addition, Veeco may reimburse brokerage firms, banks and other fiduciaries representing beneficial owners of Veeco common stock for expenses incurred in forwarding solicitation material to such beneficial owners. Proxies also may be solicited by certain of Veeco's directors, officers and regular employees, personally or by telephone or telecopier. Such persons will not receive additional compensation, but may be reimbursed for reasonable out-of-pocket expenses incurred in connection with such solicitations.

Any Veeco stockholder giving a proxy has the power to revoke it at any time prior to the vote by:

Filing with Veeco's Secretary written notice of revocation or a duly executed proxy bearing a later date; or

Voting in person at the Veeco special meeting.

Recommendation of Veeco's Board of Directors

Veeco's board of directors unanimously has approved the merger, the merger agreement and the transactions contemplated thereby and has determined that the merger is advisable, consistent with and in furtherance of the long-term business strategy of Veeco and fair to, and in the best interests of, Veeco and its stockholders. After careful consideration, Veeco's board of directors unanimously recommends that Veeco stockholders vote in favor of the issuance of Veeco common stock to FEI shareholders in the merger. Veeco's board of directors also unanimously determined that the amendments to Veeco's Amended and Restated Certificate of Incorporation to increase the number of authorized shares of Veeco common stock from 60,000,000 to 175,000,000 and to change the name of Veeco Instruments Inc. to Veeco FEI Inc. are advisable and recommends that Veeco stockholders vote to approve them.

THE FEI SPECIAL MEETING

Date, Time and Place of FEI Special Meeting

The FEI special meeting will be held at a.m. (local time), on , , 2002, at .

Purpose

The purpose of the FEI special meeting is to approve the merger. FEI shareholders may also be asked to consider and vote upon such other matters as may be properly brought before the FEI special meeting or any adjournments or postponements of the FEI special meeting. Any adjournment or postponement could be used for the purpose of allowing additional time for soliciting additional votes to approve the merger.

Record Date and Outstanding Shares

Only holders of record of FEI common stock at the close of business on , 2002, the FEI record date, are entitled to notice of, and to vote at, the FEI special meeting. As of the FEI record date, there were approximately FEI shareholders of record holding an aggregate of approximately shares of FEI common stock.

On or about , 2002, this joint proxy statement/prospectus, which includes a notice satisfying the applicable requirements of Oregon law, is being mailed to all FEI shareholders of record as of the FEI record date.

Voting and Solicitation

At the FEI special meeting, each shareholder will be entitled to one vote for each share of FEI common stock held by such shareholder. FEI's Restated Bylaws provide that the presence of the holders of a majority of all of the FEI common stock entitled to vote, whether present in person or represented by proxy, shall constitute a quorum for the transaction of business at the FEI special meeting. Under the Oregon Business Corporation Act, the holders of a majority of the shares of FEI common stock entitled to vote must vote "**FOR**" the approval of the merger in order for the merger to be approved by FEI's shareholders.

Shares of FEI common stock that are voted "FOR," "AGAINST" or "ABSTAIN" with respect to a matter, or are broker non-votes, will be treated as being present at the FEI special meeting for purposes of establishing a quorum. For purposes of obtaining the required vote of a majority of the shares of FEI common stock entitled to vote to approve the merger, the effect of an abstention or a broker non-vote is the same as a vote against the proposal.

To vote by proxy, you should complete your proxy card and mail it in the enclosed postage prepaid envelope.

If your shares are held in an account at a brokerage firm or bank, you must direct them on how to vote your shares. Your broker or bank will vote your shares only if you provide directions on how to vote by following the instructions provided to you by your broker or bank.

Directors and executives officers of FEI and PBE, FEI's largest shareholder, who collectively held approximately 27.4% of FEI's outstanding common stock, as of June 30, 2002, have entered into voting agreements with Veeco under which they have agreed to vote their shares of FEI common stock in favor of the approval of the merger. These FEI shareholders, however, may vote their FEI shares in favor of a Superior FEI Proposal or related FEI Acquisition Transaction. These FEI shareholders also

have granted Veeco irrevocable proxies to vote their FEI common stock in this manner. See the section titled "Other Agreements Voting Arrangements with FEI Shareholders" beginning on page 96.

All valid proxies received prior to the FEI special meeting will be voted. All shares represented by a proxy will be voted, and where a shareholder specifies by means of the proxy a choice ("FOR," "AGAINST" or "ABSTAIN") with respect to any matter to be acted upon, the shares of FEI common stock will be voted in accordance with the specification so made. **If no choice is indicated on the proxy, the shares of FEI common stock will be voted "FOR" the approval of the merger (other than instances of broker non-votes, which shares will not be voted).**

The cost of this solicitation to FEI shareholders will be borne by FEI. FEI has retained Georgeson, to solicit proxies. Georgeson may contact FEI shareholders by mail, telephone, telex, telegraph and personal interviews. Georgeson will receive from FEI a fee of $9,000 for its services, plus reimbursement of out-of-pocket expenses. FEI has agreed to indemnify Georgeson against certain liabilities and expenses in connection with such solicitation, including liabilities under the federal securities laws. In addition, FEI may reimburse brokerage firms, banks and other fiduciaries representing beneficial owners of FEI common stock for expenses incurred in forwarding solicitation material to such beneficial owners. Proxies may also be solicited by certain of FEI's directors, officers and regular employees, personally or by telephone or telecopier. Such persons will not receive additional compensation, but may be reimbursed for reasonable out-of-pocket expenses incurred in connection with such solicitations.

Any FEI shareholder giving a proxy has the power to revoke it at any time prior to the vote by taking any of the following actions:

Filing a written notice of revocation dated after the date of the proxy with FEI's secretary, Bradley J. Thies, in care of FEI Company at 7451 NW Evergreen Parkway, Hillsboro, OR 97124-5830, at or before the vote at the special meeting;

Signing a duly executed proxy bearing a later date relating to the same shares, and delivering it to FEI's secretary before the special meeting; or

Attending the special meeting and voting in person.

You should not send in any FEI stock certificates with your proxy card. The exchange agent will mail a transmittal letter to you containing instructions for the surrender of your FEI stock certificates as soon as practicable after the completion of the merger.

Recommendation of FEI's Board of Directors

FEI's board of directors unanimously has approved the merger, the merger agreement and the transactions contemplated thereby and has determined that the merger is advisable, consistent with and in furtherance of the long-term business strategy of FEI and fair to, and in the best interests of, FEI and its shareholders. After careful consideration, FEI's board of directors unanimously recommends that FEI's shareholders vote in favor of the approval of the merger.

THE MERGER

This section of the joint proxy statement/prospectus describes the proposed merger. While FEI and Veeco believe that the description covers the material terms of the merger and the related transactions, this summary may not contain all of the information that is important to you. You should read this entire joint proxy statement/prospectus, including its Appendices and the other documents referred to herein, carefully for a more complete understanding of the merger.

Background of the Merger

The merger agreement and the terms and conditions of the merger are the result of negotiations between representatives of Veeco and FEI. The following summary describes the background of these negotiations.

From time to time, both Veeco and FEI have conducted preliminary discussions with numerous merger and acquisition candidates. Before October 2001, Edward H. Braun, Chairman, Chief Executive Officer and President of Veeco, and Vahé A. Sarkissian, Chairman, Chief Executive Officer and President of FEI, were familiar with one another and had come into contact with one another at industry trade shows, various conventions and in various other circumstances. In addition, prior to his employment at FEI, Mr. Sarkissian provided consulting services to Veeco on certain discrete projects.

On several occasions over the past several years, Mr. Braun and Mr. Sarkissian had discussed the possibility of a business combination or strategic relationship involving Veeco and FEI. However, on each occasion, these discussions were terminated and did not result in any further actions relating to any such business combination or strategic relationship.

During October and November 2001, Mr. Braun and Mr. Sarkissian had preliminary conversations and exchanged general information about Veeco's and FEI's businesses and the general possibility of a business combination was suggested. During December 2001 and January 2002, these discussions continued and Messrs. Braun and Sarkissian agreed to continue their discussions regarding a proposed strategic combination of Veeco and FEI.

On January 21 and 22, 2002, Mr. Braun and Mr. Sarkissian met in person in San Jose, California. The meeting focused on the two companies' business operations and strategy, whether a cultural fit existed between the two companies and how the two companies could be integrated. At this meeting, Mr. Braun made a proposal to Mr. Sarkissian regarding a potential business combination involving Veeco and FEI.

In January 2002, Veeco retained Salomon Smith Barney Inc. to act as its financial advisor in connection with a possible business combination with FEI and to assist Veeco in evaluating the proposed combination. Salomon Smith Barney had previously, from time to time, assisted Veeco in evaluating potential strategic relationships.

On January 25, 2002, FEI engaged Credit Suisse First Boston to act as its financial advisor in connection with a potential strategic transaction with Veeco.

On January 25, 2002, at its regularly scheduled board meeting, the Veeco board of directors discussed the potential transaction with FEI, among other things. The board determined that management should continue to evaluate and pursue the potential transaction with FEI.

On February 28, 2002, Veeco and FEI entered into a Mutual Confidentiality Agreement in connection with their ongoing negotiations and due diligence activities.

On March 16, 2002, the FEI board of directors met and discussed, among other things, the possibility of entering into a transaction with Veeco. The board considered background materials on

Veeco presented by management, including information on its business and markets, historical financial results and the trading history of its common stock.

On March 18 and 19, 2002, Messrs. Braun and Sarkissian met in New York, New York to further discuss FEI's and Veeco's businesses, the markets served by each company and how FEI and Veeco might complement each other as part of a combined entity. The parties also discussed the structure of a potential transaction, as well as roles of senior officers, the potential exchange ratio for the transaction, the potential management of the combined company and other general matters.

Between March 15 and April 9, 2002, discussions took place between certain of Veeco's and FEI's senior management personnel during which they reviewed the product offerings, markets served and technologies of each company, as well as the financial results and condition of each business. Also during this period, representatives of Veeco's and FEI's senior management engaged in discussions relating to the terms and conditions of a possible business combination. In addition, Veeco's outside legal counsel, Kaye Scholer LLP, had discussions with FEI's outside legal counsel, Wilson Sonsini Goodrich & Rosati, regarding the scope of the mutual due diligence to be conducted.

In March 2002, Veeco retained Ernst & Young LLP to perform certain accounting and financial due diligence services for it in connection with the proposed merger.

The discussions in late March and early April led to meetings involving members of senior management of each of Veeco and FEI and their outside legal and financial advisors in San Francisco, California on April 10 and 11, 2002. The main purpose of these meetings was for the management of each of the companies to meet each other and to become familiar with the business and operations of the other. At the meetings, members of management of each of Veeco and FEI presented an overview highlighting their respective operations, product positioning, technology, research and development efforts and results of operations and financial condition. Members of both Veeco's and FEI's outside legal and financial advisors were also present at the meetings.

Between April 10 and July 11, 2002:

- The companies and their respective outside advisors conducted extensive due diligence, including evaluations of various accounting, tax, employee benefits, intellectual property, legal, environmental and other matters related to FEI and Veeco;
- The financial advisors continued evaluating the financial terms of the proposed transaction;
- Management of both companies met to discuss combining operations of the two companies; and
- Negotiations continued on the terms and conditions of the business combination agreements.

On April 15, 2002, Kaye Scholer LLP delivered an initial draft of the merger agreement to FEI and Wilson Sonsini Goodrich & Rosati. Also on April 15, 2002, Merchant & Gould, LLP was retained by Veeco to conduct due diligence with respect to the intellectual property held and/or licensed by FEI.

On April 18, 2002, in a special meeting of the FEI board of directors, FEI management, Wilson Sonsini Goodrich & Rosati and Credit Suisse First Boston reviewed with the FEI board of directors the transaction terms proposed by Veeco. In addition, Wilson Sonsini Goodrich & Rosati reviewed with the board of directors their fiduciary duties in connection with the proposed transaction. FEI's board of directors

considered the proposed transaction and determined that management should continue to evaluate and pursue the potential business combination.

On April 25, 2002, Veeco's board of directors held a meeting at which the directors discussed, among other things, the terms of the proposed merger transaction, valuation issues regarding the merger and issues requiring additional due diligence. Veeco's management discussed with the board of directors the business of FEI and the potential benefits to Veeco and its stockholders of a business combination with FEI. Management also explained the need to authorize additional capital stock for

Veeco in order to provide the ability to pursue acquisitions such as the merger with FEI and for other corporate purposes. At this meeting, representatives of Salomon Smith Barney reviewed the strategic rationale, financial terms and structure of the proposed merger.

On April 30, 2002, Mr. Braun, Mr. Rein and Veeco board members, Messrs. Richard D'Amore, Roger McDaniel and Walter Scherr, and Mr. Sarkissian and FEI board members, Messrs. Michael Attardo, William Curran and Gerhard Parker, met in New York, New York to further discuss the two companies' business operations and strategy and the feasibility of integrating the two companies.

From May 1 through May 3, 2002, Veeco's management and Kaye Scholer LLP discussed the status of negotiations and identified outstanding issues in connection with the potential merger and representatives of Veeco separately discussed various business and valuation issues with FEI, Credit Suisse First Boston and Salomon Smith Barney.

On May 7, 2002, the FEI board of directors held a special meeting to discuss the potential transaction. At the meeting, FEI management, Wilson Sonsini Goodrich & Rosati, Credit Suisse First Boston and Deloitte & Touche, FEI's independent accounting firm, updated FEI's directors on their due diligence investigations and reviewed the terms of the proposed transaction, based upon the proposed definitive agreement and other materials previously circulated to the board. This meeting included a discussion of the material terms of the proposed transaction. FEI's board of directors discussed the proposed transaction and determined to continue to evaluate and pursue the proposed business combination further.

From May 2002 through July 2002, Veeco, FEI and PBE held discussions regarding, and negotiated the principal terms and conditions of, a voting agreement between Veeco and PBE and an investor agreement among Veeco, FEI and PBE. During this period Veeco and FEI, and their respective financial advisors, held discussions for the purposes of negotiating the transaction exchange ratio and board composition of the combined company.

On May 16, 2002, the FEI board of directors held a special meeting to discuss the proposed transaction. At the meeting, Wilson Sonsini Goodrich & Rosati reviewed with FEI's board of directors its fiduciary duties in connection with the proposed transaction and the status of the transaction negotiations. In addition, Credit Suisse First Boston updated the board on negotiations regarding the exchange ratio. Wilson Sonsini Goodrich & Rosati and Credit Suisse First Boston also reviewed with FEI's board of directors certain measures that FEI could take to deter an inadequate or coercive takeover of the company. FEI's board of directors considered the proposed transaction and determined that management should continue to evaluate and pursue the business combination with Veeco.

On May 20, 2002, Mr. Braun and Mr. Sarkissian met in San Francisco, California to discuss the proposed transaction and roles for senior managers, the integration process, integration teams and a preliminary organizational chart.

On May 22, 2002, the Veeco board of directors held a special meeting to discuss the proposed merger. At that meeting, Mr. Braun reviewed the proposed roles of Chief Executive Officer and Chairman, the markets that the combined company would serve and products that the combined company would offer, and the benefits and risks of the proposed merger. Mr. Rein discussed the financial situation of Veeco and FEI and reviewed the status of due diligence efforts and accounting considerations, including the significance of which entity would be the continuing entity for accounting purposes. Representatives of Salomon Smith Barney reviewed the potential effects of the proposed merger on the combined company.

On May 24, 2002, the FEI board of directors held a special meeting to discuss the transaction. Wilson Sonsini Goodrich & Rosati again reviewed with FEI's board of directors its fiduciary duties in connection with the proposed transaction, the negotiations on the definitive agreements that had taken place to date and the results of the due diligence process. Management reviewed with FEI's board of

directors the potential near-term and long-term synergies of the transaction, the negotiations concerning the exchange ratio for the transaction, the negotiations concerning the composition of Veeco FEI's board of directors and management of the combined company. Deloitte & Touche reviewed with FEI's board of directors certain accounting determinations that would be made in connection with the transaction, in particular, the accounting treatment of the combined entity. Credit Suisse First Boston reviewed with FEI's board of directors certain financial parameters of the transaction, as well as estimated pro forma financial data for the combined company and potential risks to FEI of the transaction and of remaining a stand-alone entity. Credit Suisse First Boston also summarized the recent negotiations with Veeco regarding the proposed exchange ratio and the discussions relating to the historical trading prices of the two companies' common stock. FEI's board of directors further considered the proposed transaction and determined that management should continue to evaluate and pursue the business combination. Following the meeting, the compensation committee of FEI's board of directors met to discuss the current employment terms for Messrs. Sarkissian and Braun and various potential approaches to their employment terms in connection with the proposed transaction.

On May 30, 2002, Salomon Smith Barney submitted to Credit Suisse First Boston, on behalf of Veeco, a revised proposal regarding the combination of Veeco and FEI.

On May 31, 2002, the parties discussed a proposed exchange ratio of 1.355 shares of Veeco common stock for each share of FEI common stock.

On June 4, 2002, the compensation committee of FEI's board of directors met to further discuss potential employment terms for Messrs. Sarkissian and Braun. At the meeting, Wilson Sonsini Goodrich & Rosati updated the compensation committee on the discussions between Veeco and FEI regarding potential employment terms.

On June 6, 2002, the Veeco board of directors held a special meeting to discuss the proposed merger. Mr. Braun reviewed the key terms of the proposed merger. Mr. Rein discussed the continuing accounting entity considerations and Veeco's plan to submit a letter to the SEC to confirm Veeco's determination that, based on the proposed structure of the merger, Veeco would be the continuing accounting entity. Mr. Rein also reviewed the status of due diligence and the negotiation of the definitive merger agreement.

On June 10, 2002, members of the management teams of Veeco and FEI met in New York, New York to further discuss the potential business combination and specific terms of the transaction.

On June 19, 2002, FEI held another special meeting of its board of directors to discuss the proposed transaction. At the meeting, management, along with Wilson Sonsini Goodrich & Rosati, Credit Suisse First Boston and Deloitte & Touche, discussed with FEI's board of directors the status of the negotiations and, in particular, the accounting determination to be made in connection with the proposed transaction relating to the accounting treatment of the combined entity.

On June 21, 2002, Veeco submitted a letter to the Staff of the SEC regarding its accounting determination that Veeco would be the acquiring entity for accounting purposes in the merger and sought the Staff's concurrence with this position.

On June 27, 2002, Veeco and FEI, together with Kaye Scholer LLP and Wilson, Sonsini Goodrich & Rosati and representatives from Ernst & Young LLP, Veeco's outside auditors, participated in a conference call with the Staff of the SEC to answer the Staff's questions regarding this determination. In response to a request made by the SEC Staff, an additional submission was made by Veeco to the SEC on June 28, 2002.

On July 8, 2002, Veeco received confirmation from the Staff of the SEC that it would not object to Veeco's determination that Veeco would be the acquiring entity for accounting purposes following the merger.

On July 9, 2002, Veeco's board of directors held a meeting at which the board reviewed the terms of the revised merger agreement and ancillary agreements as well as the results of the due diligence review of FEI. During this meeting, Mr. Braun and Kaye Scholer LLP outlined the principal terms and conditions of the merger agreement, the voting agreements, the investor agreement and the other ancillary agreements, and answered questions posed by the board. Representatives from Salomon Smith Barney answered questions posed by the board and made a presentation regarding the financial terms of the merger. At the conclusion of the presentation, Salomon Smith Barney delivered to Veeco's board of directors an oral opinion, which opinion was confirmed by delivery of a written opinion dated July 11, 2002, the date of the merger agreement, to the effect that as of such date and based on and subject to the matters described in its opinion, the exchange ratio was fair, from a financial point of view, to Veeco. After a comprehensive review and discussion of the potential merger, Veeco's board of directors unanimously approved the merger, the merger agreement and the transactions contemplated thereby and determined that the merger was advisable, consistent with and in furtherance of the long-term business strategy of Veeco and fair to, and in the best interests of, Veeco and its stockholders. The

board also authorized the amendment to Veeco's rights agreement to provide that the merger would not trigger the rights issued under that agreement. On July 10, 2002, the compensation committee of Veeco's board of directors held a meeting to further discuss the proposed employment terms for Messrs. Braun and Sarkissian.

On July 10, 2002, FEI's board of directors held a special meeting regarding the potential transaction. At the meeting, representatives of Wilson Sonsini Goodrich & Rosati again reviewed with FEI's board of directors its fiduciary duties in connection with the transaction and the final proposed terms of the definitive agreements. Representatives of Credit Suisse First Boston reviewed with FEI's board of directors financial analyses prepared in connection with its fairness opinion. Credit Suisse First Boston then delivered to FEI's board of directors its oral opinion, which opinion was subsequently confirmed in writing on July 11, 2002, the date of the merger agreement, to the effect that, as of the date of the opinion and based upon and subject to the various considerations described in its opinion, the exchange ratio provided for in the merger was fair, from a financial point of view, to the holders of FEI common stock, other than PBE and its affiliates. Following these presentations and discussion, FEI's board of directors unanimously determined that the merger was advisable, consistent with and in furtherance of the long-term business strategy of FEI and fair to, and in the best interests of, FEI and its shareholders and unanimously approved the merger, merger agreement and related transactions.

On July 11, 2002, Mr. Braun met with Mr. Sarkissian in New York to confirm that all transaction issues had been resolved and that all terms of the transaction had been agreed upon.

On the evening of July 11, 2002, the parties executed the merger agreement, the voting agreements, the investor agreement and the other ancillary agreements.

On July 12, 2002, Veeco and FEI issued a joint press release announcing the agreement before the opening of The Nasdaq National Market.

Veeco's Reasons for the Merger

Veeco's board of directors believes that the merger is in the best interests of Veeco's stockholders and that the terms of the merger are fair, from a financial point of view, to Veeco and Veeco's stockholders. Veeco's board of directors came to its conclusion based upon a number of factors including the current financial condition and results of operations, as well as the prospects and future strategy, of Veeco and the risks involved in achieving those prospects and objectives without a strategic partner, and the factors described below. In particular, the Veeco board of directors, in its

deliberations, focused on the current and expected trends in the semiconductor and data storage industries generally.

Veeco's board of directors believes that the merger is consistent with Veeco's objectives and strategies to gain access to new markets, technologies and products in order to maintain and expand its competitive position and that the merger will create a stronger company, both from a financial and an operational standpoint.

In rendering its decision, Veeco's board of directors, in addition to considering the anticipated benefits described above, consulted with Veeco's management, outside legal counsel and financial advisor and considered many other potential material factors that it believed made the merger advisable and that could contribute to the long-term success of Veeco, including that the merger would:

- Improve Veeco's ability to provide more comprehensive product solutions for the data storage, semiconductor, telecommunications/wireless and scientific research industries;
- Lessen Veeco's present and future dependency on major customers because of an increased customer base;
- Create a combined company with the critical mass and global presence to better serve the needs of Veeco's customers and potentially deepen its relationships with these customers;
- Expand Veeco's product line with complementary metrology technologies;

Enhance Veeco's research and development efforts and improve its ability to bring new products to market;

Enhance Veeco's purchasing power with its supplier base because of its increased size and buying power; and

Enhance Veeco's management team, therefore positioning the combined company to take advantage of future growth opportunities.

Veeco's board of directors also considered the following:

Information concerning Veeco's and FEI's respective businesses, historical financial performance and condition, operations, technology, products, strategic partners, customers, competitive positions, prospects and management;

Current financial market conditions and the historical market prices, volatility and trading information of Veeco and FEI common stock;

The financial and other terms of the proposed merger, including the consideration to be paid to FEI securityholders in the merger, the relationship between the market value of Veeco and FEI common stock and a comparison of comparable merger transactions;

The opinion of Salomon Smith Barney dated July 11, 2002 to the effect that, as of such date and based on and subject to the matters described in its opinion, the exchange ratio was fair, from a financial point of view, to Veeco. The full text of Salomon Smith Barney's opinion is attached to this joint proxy statement/prospectus as Appendix E. See the section titled "The Merger Opinion of Veeco's Financial Advisor" beginning on page 50;

The combined company will have a board of directors composed of thirteen members, seven members nominated by Veeco, five members nominated by FEI and one member nominated by PBE;

The terms and conditions of the merger agreement and related agreements which had been negotiated with FEI and others;

The likelihood that the merger would be completed, including the limited conditions to the closing of the merger;

The potential impact of the merger on strategic partners, customers and employees of Veeco and FEI;

The likely reaction to the merger in the financial markets; and

Reports from management, legal and financial and other advisors as to the results of the due diligence review of FEI.

Veeco's board of directors also considered that the merger was expected, based upon its evaluation of the prospects of the companies, to be accretive to industry analysts' consensus estimates for Veeco FEI's pro forma earnings per share for the year ending December 31, 2003.

Veeco's board of directors also considered the potential risks and disadvantages of the merger, including, but not limited to, the following:

A significant portion of FEI's sales are attributable to the data storage and semiconductor industries, as is the case with Veeco. Accordingly, following the merger, the combined company would be heavily dependent on the data storage and semiconductor industries. The data storage and semiconductor industries have been characterized by cyclicality. As a result, Veeco may experience greater period-to-period fluctuations in future operating results due to general industry conditions or events occurring in the general economy than it would otherwise experience;

The risk that the potential synergies and other benefits sought in the merger might not be fully realized;

The challenges of integrating the management teams, strategies, cultures and organizations of the companies;

The risk that key management and other personnel might not remain employed by FEI or the combined company following the merger;

Risks associated with fluctuations in Veeco's stock price and FEI's stock price prior to closing of the merger;

The risk of disruption of sales momentum as a result of uncertainties created by the announcement of the merger;

The possibility that the merger might not be consummated, even if approved by each company's stockholders, including the possible effect of the termination fee;

The substantial charges to be incurred in connection with the merger, including costs of integrating the businesses and transaction expenses arising from the merger;

Other applicable risks described in this joint proxy statement/prospectus in the section titled "Risk Factors" beginning on page 14;

The substantial dilution in the percentage of the ownership of Veeco's common stock to existing Veeco stockholders that will result from the issuance of Veeco common stock in the merger; and

The decreased likelihood that Veeco would receive a third-party acquisition proposal because of the termination fee and, to a lesser extent, the voting agreements.

The foregoing discussion of the information and factors considered by the Veeco board of directors is not intended to be exhaustive but is believed to include the material factors considered by the Veeco board of directors in connection with its review of the proposed merger. In view of the wide variety of

factors considered in connection with its evaluation of the merger, Veeco's board of directors did not find it practicable to, and did not, quantify or otherwise attempt to assign relative weights to different factors considered in reaching its determination. Rather, the Veeco board of directors viewed its position and recommendations as being based on the totality of the information presented to, and considered by, the Veeco board of directors. In addition, individual members of Veeco's board of directors may have given different weights to different factors. All of the factors described above were carefully considered by Veeco's management and board of directors. Based on the above-described analysis, Veeco's board of directors has determined that the terms of the merger are advisable, consistent with and in furtherance of the long-term business strategy of Veeco and fair to, and in the best interests of, Veeco and Veeco's stockholders and has made the recommendation set forth below.

FEI's Reasons for the Merger

The FEI board of directors approved the merger agreement and the transactions contemplated by the merger agreement because it determined that the combined company would have the potential to realize a stronger competitive position and improved long-term operating and financial results. The FEI board of directors came to its conclusion after considering a number of factors both for and against recommending the merger as described below.

During the course of its deliberations, FEI's board of directors considered a number of factors that it believed made the merger advisable and could contribute to the long-term success of the combined company. These factors include the potential that the merger will:

- Create a combined company with greater critical mass, stronger global presence and broader sales channels to better serve the needs of FEI's customers and deepen its relationships with these customers;
- Expand FEI's product lines with complementary technologies;
- Enable the combined company to have a stronger presence in FEI's core target markets;
- Enhance the combined company's technology portfolio and research and development resources and improve its ability to bring new products and solutions to market;
- Improve FEI's ability to provide more comprehensive product solutions for the semiconductor, data storage, telecommunications/wireless and scientific research industries;
- Enhance FEI's purchasing power with its supplier base because of the combined company's increased size and buying power; and
- Strengthen the management team to position the combined company to take advantage of future growth opportunities.

FEI's board of directors further considered:

- FEI's prospects and future strategy as a stand-alone entity and potential alternative strategies;
- The terms and conditions of the merger agreement and related agreements that had been negotiated with Veeco and PBE;
- The oral opinion rendered by Credit Suisse First Boston, as subsequently confirmed in writing on July 11, 2002, to the effect that, as of the date of the opinion and based on and subject to the various considerations described in the opinion, the exchange ratio was fair, from a financial point of view, to the holders of FEI common stock, other than PBE and its affiliates. The full text of Credit Suisse First Boston's opinion is attached to this joint proxy statement/prospectus as Appendix D;
- The fact that the consideration to be offered to FEI shareholders as of the signing of the merger agreement on July 11, 2002, implies premiums relative to FEI's closing share price one day, one week, and four weeks prior to July 11, 2002, the date of the announcement of the execution of the merger agreement, of 48%, 39%, and 28% respectively; and
- That the merger is expected to be tax-free to FEI shareholders (except for tax on gain resulting from the receipt of cash paid by Veeco instead of fractional shares) for federal income tax purposes.

In making its ultimate determinations to enter into the merger agreement, the FEI board of directors also considered the potential risks and disadvantages of the merger, including, but not limited to, the following:

The combined company's continued dependence on certain markets;

The current depressed condition of the telecommunications equipment market and the risk that there will not be significant recovery in that market;

The risk that the potential synergies and other benefits sought in the merger might not be fully realized;

The challenges of integrating the management teams, strategies, cultures and organizations of the companies;

The risk that key management and other personnel might not remain employed by FEI or the combined company;

The risk of a fixed exchange ratio and the risk that Veeco's stock price could decline prior to, or after, the closing of the merger;

The risk of disruption of sales momentum as a result of uncertainties created by the announcement of the merger;

The possibility that the merger might not be consummated, even if approved by each company's stockholders;

The substantial charges to be incurred in connection with the merger, including costs of integrating the businesses and transaction expenses arising from the merger;

The decreased likelihood that FEI would receive a third-party acquisition proposal due to certain terms of the merger agreement and voting agreements; and

Other applicable risks described in this joint proxy statement/prospectus in the section titled "Risk Factors."

In view of the wide variety of factors considered in connection with its evaluation of the merger, the FEI board of directors did not find it practicable to, and did not, quantify or otherwise attempt to

assign relative weights to different factors considered in reaching its determination. In addition, individual members of FEI's board of directors may have given different weights to different factors and may have considered other factors. The foregoing list of factors is not exhaustive.

Recommendation of Veeco's Board of Directors

Veeco's board of directors unanimously has approved the merger, the merger agreement and the transactions contemplated thereby and has determined that the merger is advisable, consistent with and in furtherance of the long-term business strategy of Veeco and fair to, and in the best interests of, Veeco and its stockholders and has determined that the proposed amendments to Veeco's Amended and Restated Certificate of Incorporation to increase the authorized shares of Veeco's common stock and to change the name of Veeco Instruments Inc. to Veeco FEI Inc. are advisable. After careful consideration, the Veeco board of directors unanimously recommends that Veeco stockholders vote "**FOR**" approval of the issuance of Veeco common stock in the merger and "**FOR**" the approval of the amendments to Veeco's Amended and Restated Certificate of Incorporation to increase the authorized shares of Veeco's common stock from 60,000,000 shares to 175,000,000 shares and to change the name of Veeco Instruments Inc. to Veeco FEI Inc. As of the Veeco record date, members of Veeco's board of directors and management of Veeco held (together with entities with which they are affiliated), in the aggregate, approximately % of the outstanding Veeco common stock.

Recommendation of FEI's Board of Directors

FEI's board of directors unanimously has approved the merger, the merger agreement and the transactions contemplated thereby and has determined that the merger is advisable, consistent with and in furtherance of the long-term business strategy of FEI and fair to, and in the best interests of, FEI and its shareholders. After careful consideration, FEI's board of directors unanimously recommends that FEI shareholders vote "**FOR**" the approval of the merger. As of the FEI record date, members of FEI's board of directors and management of FEI held (together with entities with which they are affiliated) in the aggregate, approximately % of the outstanding FEI common stock.

Opinion of Veeco's Financial Advisor

Veeco retained Salomon Smith Barney Inc. to act as its financial advisor in connection with the proposed merger. In connection with this engagement, Veeco requested that Salomon Smith Barney evaluate the fairness, from a financial point of view, to Veeco of the exchange ratio

provided for in the merger. On July 9, 2002, at a meeting of the Veeco board of directors held to evaluate the proposed merger, Salomon Smith Barney delivered to the Veeco board of directors an oral opinion, which opinion was confirmed by delivery of a written opinion dated July 11, 2002, the date of the merger agreement, to the effect that, as of that date and based on and subject to the matters described in its opinion, the exchange ratio was fair, from a financial point of view, to Veeco.

In arriving at its opinion, Salomon Smith Barney:

- Reviewed the merger agreement;
- Held discussions with senior officers, directors and other representatives and advisors of Veeco and with senior officers and other representatives and advisors of FEI concerning the businesses, operations and prospects of Veeco and FEI;
- Examined publicly available business and financial information relating to Veeco and FEI;
- Examined financial forecasts and other information and data for Veeco and FEI, which were provided to or otherwise discussed with Salomon Smith Barney by the managements of Veeco and FEI, including information relating to the potential strategic implications and operational benefits anticipated by the managements of Veeco and FEI to result from the merger;

- Reviewed the financial terms of the merger as described in the merger agreement in relation to, among other things, current and historical market prices and trading volumes of Veeco common stock and FEI common stock, the historical and projected earnings and other operating data of Veeco and FEI, and the capitalization and financial condition of Veeco and FEI;
- Considered, to the extent publicly available, the financial terms of other transactions effected which it considered relevant in evaluating the merger;
- Analyzed financial, stock market and other publicly available information relating to the businesses of other companies whose operations it considered relevant in evaluating those of Veeco and FEI;
- Evaluated the potential pro forma financial impact of the merger on Veeco; and
- Conducted other analyses and examinations and considered other financial, economic and market criteria as it deemed appropriate in arriving at its opinion.

In rendering its opinion, Salomon Smith Barney assumed and relied, without independent verification, on the accuracy and completeness of all financial and other information and data publicly available or furnished to or otherwise reviewed by or discussed with it. With respect to financial forecasts and other information and data relating to Veeco and FEI provided to or otherwise discussed with Salomon Smith Barney, the managements of Veeco and FEI advised Salomon Smith Barney that the forecasts and other information and data were reasonably prepared on bases reflecting the best currently available estimates and judgments of the managements of Veeco and FEI as to the future financial performance of Veeco and FEI and the potential strategic implications and operational benefits anticipated to result from the merger, including the amount, timing and achievability of those strategic implications and operational benefits.

Salomon Smith Barney assumed, with Veeco's consent, that the merger will be consummated in accordance with its terms without waiver, modification or amendment of any material term, condition or agreement and that, in the course of obtaining the necessary regulatory or third party approvals and consents for the merger, no delay, limitation, restriction or condition will be imposed that would have an adverse effect on Veeco or FEI or the contemplated benefits of the merger. Salomon Smith Barney also assumed, with Veeco's consent, that the merger will be treated as a tax-free reorganization for federal income tax purposes. Salomon Smith Barney's opinion relates to the relative values of Veeco and FEI. Salomon Smith Barney did not express any opinion as to what the value of the Veeco common stock actually will be when issued in the merger or the prices at which the FEI common stock will trade or otherwise be transferable at any time. Salomon Smith Barney did not make and was not provided with an independent evaluation or appraisal of the assets or liabilities, contingent or otherwise, of Veeco or FEI, and Salomon Smith Barney did not make any physical inspection of the properties or assets of Veeco or FEI.

Salomon Smith Barney expressed no view as to, and its opinion does not address the relative merits of the merger as compared to any alternative business strategies that might exist for Veeco or the effect of any other transaction in which Veeco might engage. Salomon Smith Barney's opinion was necessarily based on information available, and financial, stock market and other conditions and circumstances existing

and disclosed to Salomon Smith Barney, as of the date of its opinion. Although Salomon Smith Barney evaluated the exchange ratio from a financial point of view, Salomon Smith Barney was not asked to and did not recommend the specific consideration payable in the merger, which was determined through negotiations between Veeco and FEI. Veeco imposed no other instructions or limitations on Salomon Smith Barney with respect to the investigations made or procedures followed by Salomon Smith Barney in rendering its opinion.

The full text of Salomon Smith Barney's written opinion dated July 11, 2002, which describes the assumptions made, matters considered and limitations on the review undertaken, is attached to this joint proxy statement/prospectus as Appendix E and is incorporated into this joint proxy statement/

prospectus by reference. You should read this opinion carefully and in its entirety in connection with this joint proxy statement/prospectus. Salomon Smith Barney's opinion is directed to the Veeco board of directors and relates only to the fairness of the exchange ratio from a financial point of view, does not address any other aspect of the merger or any related transaction and does not constitute a recommendation to any stockholder with respect to any matters relating to the proposed merger.

In preparing its opinion, Salomon Smith Barney performed a variety of financial and comparative analyses, including those described below. The summary of these analyses is not a complete description of the analyses underlying Salomon Smith Barney's opinion. The preparation of a fairness opinion is a complex analytical process involving various determinations as to the most appropriate and relevant methods of financial analysis and the application of those methods to the particular circumstances and, therefore, a fairness opinion is not readily susceptible to summary description. Accordingly, Salomon Smith Barney believes that its analyses must be considered as a whole and that selecting portions of its analyses and factors or focusing on information presented in tabular format, without considering all analyses and factors or the narrative description of the analyses, could create a misleading or incomplete view of the processes underlying its analyses and opinion.

In its analyses, Salomon Smith Barney considered industry performance, general business, economic, market and financial conditions and other matters existing as of the date of its opinion, many of which are beyond the control of Veeco and FEI. No company, business or transaction used in those analyses as a comparison is identical to Veeco, FEI or the proposed merger, and an evaluation of those analyses is not entirely mathematical. Rather, the analyses involve complex considerations and judgments concerning financial and operating characteristics and other factors that could affect the acquisition, public trading or other values of the companies or business segments analyzed.

The estimates contained in Salomon Smith Barney's analyses and the valuation ranges resulting from any particular analysis are not necessarily indicative of actual values or predictive of future results or values, which may be significantly more or less favorable than those suggested by its analyses. In addition, analyses relating to the value of businesses or securities do not necessarily purport to be appraisals or to reflect the prices at which businesses or securities actually may be sold. Accordingly, Salomon Smith Barney's analyses and estimates are inherently subject to substantial uncertainty.

Salomon Smith Barney's opinion and analyses were only one of many factors considered by the Veeco board of directors in its evaluation of the merger and should not be viewed as determinative of the views of the Veeco board of directors or management with respect to the exchange ratio or the proposed merger.

The following is a summary of the material financial analyses performed by Salomon Smith Barney in connection with the rendering of its opinion dated July 11, 2002. **The financial analyses summarized below include information presented in tabular format. In order to fully understand Salomon Smith Barney's financial analyses, the tables must be read together with the text of each summary. The tables alone do not constitute a complete description of the financial analyses. Considering the data in the tables below without considering the full narrative description of the financial analyses, including the methodologies and assumptions underlying the analyses, could create a misleading or incomplete view of Salomon Smith Barney's financial analyses.**

Selected Companies Analysis. Using publicly available information, Salomon Smith Barney reviewed the market values and trading multiples of Veeco, FEI and the following 11 selected publicly

held companies in the metrology and process control industry and the semiconductor capital equipment industry, in the later case, focusing on companies with market capitalizations of more than $1.0 billion:

Metrology and Process Control	Large Cap Semiconductor Capital Equipment
KLA-Tencor Corporation	Applied Materials, Inc.
Nanometrics Incorporated	ASML Holding N.V.
Rudolph Technologies, Inc.	Axcelis Technologies, Inc.
Therma-Wave, Inc.	KLA-Tencor Corporation
Zygo Corporation	Lam Research Corporation
	Novellus Systems, Inc.
	Varian Semiconductor Equipment Associates, Inc.

All multiples were based on closing stock prices on July 8, 2002. Estimated financial data for the selected companies were based on publicly available research analysts' estimates. Estimated financial data for Veeco and FEI were based on, in the case of Veeco, internal estimates of Veeco's management and, in the case of FEI, internal estimates of FEI's management. Salomon Smith Barney reviewed firm values, calculated as equity value plus straight and convertible debt, straight and convertible preferred stock and minority interests, less cash and equity in unconsolidated affiliates, as a multiple of calendar years 2002 and 2003 estimated revenues and calendar year 2003 estimated earnings before interest, taxes, depreciation and amortization, commonly referred to as EBITDA. Salomon Smith Barney also reviewed equity market values as a multiple of calendar years 2002 and 2003 estimated earnings per share, commonly referred to as EPS. Salomon Smith Barney then applied a range of selected multiples derived from the selected companies to corresponding financial data of Veeco and FEI in order to derive implied equity reference ranges for Veeco and FEI. These implied equity reference ranges were then used to derive an implied exchange ratio reference range. This analysis indicated the following implied exchange ratio reference range, as compared to the exchange ratio provided for in the merger:

Implied Exchange Ratio Reference Range	Merger Exchange Ratio
0.88x 2.32x	1.355x

Precedent Transactions Analysis. Salomon Smith Barney reviewed the aggregate transaction values and implied transaction multiples in the following nine selected merger and acquisition transactions in the semiconductor capital equipment industry:

Acquiror	Target
Applied Materials, Inc.	Etec Systems, Inc.
ASM Lithography Holding N.V.	Silicon Valley Group, Inc.
Brooks Automation, Inc.	PRI Automation, Inc.
KLA Instruments, Inc.	Tencor Instruments, Inc.
Kulicke & Soffa Industries, Inc.	Cerprobe Corporation
Mattson Technology, Inc.	CFM Technologies, Inc.
MKS Instruments, Inc.	Applied Science & Technology, Inc.
Novellus Systems, Inc.	GaSonics International Corporation
Veeco	CVC, Inc.

All multiples for the selected transactions were based on publicly available information at the time of announcement of the relevant transaction. Salomon Smith Barney reviewed transaction values in the selected transactions as a multiple of latest 12 months revenue and equity market values in the selected transactions as a multiple of latest 12 months EPS. Salomon Smith Barney then applied a range of

selected multiples derived from the selected companies to corresponding financial data of Veeco and FEI in order to derive implied equity reference ranges for Veeco and FEI. These implied equity reference ranges were then used to derive an implied exchange ratio reference range. This analysis indicated the following implied exchange ratio reference range, as compared to the exchange ratio provided for in the merger:

Implied Exchange Ratio Reference Range	Merger Exchange Ratio
0.73x 1.75x	1.355x

Salomon Smith Barney also derived an implied exchange ratio reference range based upon the implied equity reference range for FEI, on the one hand, and the equity market value for Veeco based in the closing price of Veeco common stock on July 8, 2002, on the other hand. This analysis indicated the following implied exchange ratio reference range, as compared to the exchange ratio provided for in the merger:

Implied Exchange Ratio Reference Range	Merger Exchange Ratio
0.93x 1.48x	1.355x

Contribution Analysis. Salomon Smith Barney reviewed the relative contributions of Veeco and FEI to the EBITDA, net income and earnings before interest, taxes and amortization of the combined company for estimated calendar years 2002 and 2003. Estimated financial data for Veeco and FEI were based on, in the case of Veeco, internal estimates of Veeco's management and, in the case of FEI, internal estimates of FEI's management. Salomon Smith Barney then derived an implied exchange ratio reference range based on the relative contributions of each of Veeco and FEI. This analysis indicated the following implied exchange ratio reference range, as compared to the exchange ratio provided for in the merger:

Implied Exchange Ratio Reference Range	Merger Exchange Ratio
1.42x 2.54x	1.355x

Historical Exchange Ratio Analysis. Salomon Smith Barney reviewed the ratio of the closing price of Veeco common stock to the closing price of FEI common stock on July 8, 2002 and the high, low and average of the daily ratios of the closing prices of Veeco common stock and FEI common stock over the 12-month, 90-day, 60-day and 30-day trading periods ended July 8, 2002. This analysis indicated the following, as compared to the exchange ratio provided for in the merger:

Period	Implied Exchange Ratio		
July 8, 2002	0.940x		
	High	**Average**	**Low**
Last 12 months	1.236x	0.988x	0.821x
Last 90 days	1.150x	0.968x	0.849x
Last 60 dats	1.061x	0.923x	0.849x
Last 30 days	1.061x	0.946x	0.878x
Merger Exchange Ratio		1.355x	

Pro Forma Merger Analysis. Salomon Smith Barney reviewed the potential pro forma effect of the merger on Veeco's cash EPS for estimated calendar years 2002 and 2003, both before and after giving effect to potential cost savings or other synergies that may result from the merger. Estimated financial

data for Veeco and FEI were based on, in the case of Veeco, internal estimates of Veeco's management and, in the case of FEI, internal estimates of FEI's management. Based on the exchange ratio provided for in the merger, this analysis indicated that the merger could be accretive to Veeco's estimated cash EPS in each of the periods reviewed, both before and after giving effect to potential cost savings or other synergies that may result from the merger. The actual results achieved by the combined company may vary from projected results and the variations may be material.

Other Factors. In the course of preparing its opinion, Salomon Smith Barney also reviewed and considered other information and data, including:

historical trading prices and trading volumes for Veeco common stock and FEI common stock during the 12-month period preceding July 8, 2002;

a comparison of firm value to forward year revenue and equity value to forward year earnings for Veeco common stock, FEI common stock and the common stock of selected companies in the metrology and process control industry and selected companies in the semiconductor capital equipment industry with market capitalizations of more than $1.0 billion;

the relationship between movements in Veeco common stock, FEI common stock and the Philadelphia Semiconductor Index;

the implied multiples for Veeco on a stand-alone basis and FEI both on a stand-alone basis and in the merger based on various operational and financial metrics;

profiles of Veeco's shareholder base and FEI's shareholder base; and

selected publicly available research analysts' reports for Veeco and FEI.

Miscellaneous. Under the terms of its engagement, Veeco has agreed to pay Salomon Smith Barney customary fees for its financial advisory services in connection with the merger. Veeco also has agreed to reimburse Salomon Smith Barney for reasonable travel and other out-of-pocket expenses incurred by Salomon Smith Barney in performing its services, including the reasonable fees and expenses of its legal counsel, and to indemnify Salomon Smith Barney and related persons against liabilities, including liabilities under the federal securities laws, arising out of its engagement.

Salomon Smith Barney and its affiliates in the past have provided services to Veeco unrelated to the proposed merger for which Salomon Smith Barney and its affiliates have received compensation. In the ordinary course of business, Salomon Smith Barney and its affiliates may actively trade or hold the securities of Veeco and FEI for their own account or for the account of customers and, accordingly, may at any time hold a long or short position in these securities. In addition, Salomon Smith Barney and its affiliates, including Citigroup Inc. and its affiliates, may maintain relationships with Veeco, FEI and their affiliates.

Salomon Smith Barney is an internationally recognized investment banking firm and was selected by Veeco based on its reputation, experience and familiarity with Veeco and its business. Salomon Smith Barney regularly engages in the valuation of businesses and their securities in connection with mergers and acquisitions, negotiated underwritings, competitive bids, secondary distributions of listed and unlisted securities, private placements and valuations for estate, corporate and other purposes.

Opinion of FEI's Financial Advisor

FEI retained Credit Suisse First Boston to act as its financial advisor in connection with the merger. In connection with Credit Suisse First Boston's engagement, FEI requested that Credit Suisse First Boston evaluate the fairness, from a financial point of view, of the merger exchange ratio to holders of FEI common stock, other than PBE and its affiliates. On July 10, 2002, the FEI board of directors met to review the proposed merger and the terms of the merger agreement. During this meeting, Credit Suisse First Boston reviewed with the FEI board of directors certain financial analyses,

as described below, and rendered its oral opinion to the FEI board of directors, subsequently confirmed in writing on July 11, 2002, that, as of the date of its opinion and based upon and subject to the various considerations set forth in the Credit Suisse First Boston opinion, the merger exchange ratio was fair, from a financial point of view, to holders of FEI common stock, other than PBE and its affiliates.

The full text of the Credit Suisse First Boston opinion, which sets forth, among other things, assumptions made, procedures followed, matters considered and limitations on the scope of the review undertaken by Credit Suisse First Boston in rendering its opinion, is attached as Appendix D to this joint proxy statement/prospectus and is incorporated by reference in its entirety. FEI shareholders are urged to, and should, read the Credit Suisse First Boston opinion carefully and in its entirety. The Credit Suisse First Boston opinion addresses only the fairness, from a financial point of view, of the merger exchange ratio to holders of FEI common stock, other than PBE and its affiliates, as of the date of the Credit Suisse First Boston opinion, and does not constitute a recommendation to any shareholder as to how such shareholder should vote or act on any matter relating to the merger. The summary of the Credit Suisse First Boston opinion in this joint proxy statement/prospectus is qualified in its entirety by reference to the full text of the Credit Suisse First Boston opinion.

In connection with its opinion, Credit Suisse First Boston, among other things,

Reviewed the merger agreement and certain other related agreements;

Reviewed certain publicly available business and financial information relating to FEI and Veeco;

Reviewed certain other information relating to FEI and Veeco, including financial forecasts, provided by or discussed with FEI and Veeco, and met with the managements of FEI and Veeco to discuss the business and prospects of FEI and Veeco, respectively;

Considered certain financial and stock market data of FEI and Veeco and compared that data with similar data for other publicly held companies in businesses which Credit Suisse First Boston deemed similar to those of FEI and Veeco;

Considered, to the extent publicly available, the financial terms of certain other business combinations and other transactions which have recently been effected or announced; and

Considered such other information, financial studies, analyses and investigations and financial, economic and market criteria which Credit Suisse First Boston deemed relevant.

In connection with its review, Credit Suisse First Boston did not assume any responsibility for independent verification of any of the foregoing information and relied on such information being complete and accurate in all material respects. With respect to the publicly available financial forecasts that Credit Suisse First Boston reviewed, the managements of FEI and Veeco advised Credit Suisse First Boston, and Credit Suisse First Boston assumed, that such forecasts represent reasonable estimates and judgments as to the future financial performance of FEI and Veeco, respectively. With respect to the non-publicly available financial forecasts that Credit Suisse First Boston reviewed, the managements of FEI and Veeco advised Credit Suisse First Boston, and Credit Suisse First Boston assumed, that such forecasts represent the best currently available estimates and judgments of the managements of FEI and Veeco as to the future financial performance of FEI and Veeco, respectively. In addition, Credit Suisse First Boston relied upon, without independent verification, the assessments of the managements of FEI and Veeco as to:

The ability of FEI and Veeco to retain key employees;

The strategic benefits and potential cost savings (including the amount, timing and achievability of such benefits and savings) anticipated to result from the merger;

The existing technology, products and services of FEI and Veeco and the validity of, and risks associated with, the future technology, products and services of FEI and Veeco; and

Their ability to integrate the businesses of FEI and Veeco.

The management of FEI informed Credit Suisse First Boston, and Credit Suisse First Boston assumed, that the merger will be treated as a tax-free reorganization for federal income tax purposes. Credit Suisse First Boston also assumed, with FEI's consent, that in the course of obtaining necessary regulatory and third party approvals and consents for the merger, no modification, delay, limitation, restriction or condition will be imposed that will have a material adverse effect on FEI or Veeco or the contemplated benefits of the merger and that the merger will be consummated in accordance with the terms of the merger agreement, without waiver, modification or amendment of any material term, condition or agreement contained in the merger agreement. Credit Suisse First Boston was not requested to make, and did not make, an independent evaluation or appraisal of the assets or liabilities (contingent or otherwise) of FEI or Veeco, nor was Credit Suisse First Boston furnished with any such evaluations or appraisals. The Credit Suisse First Boston opinion is necessarily based upon information made available to it as of the date of its opinion, and upon financial, economic, market and other conditions as they existed and could be evaluated on the date of the Credit Suisse First Boston opinion. Credit Suisse First Boston did not express any opinion as to what the value of Veeco common stock actually will be when issued to holders of FEI common stock pursuant to the merger or the prices at which shares of Veeco common stock will trade at any time. The Credit Suisse First Boston opinion does not address the relative merits of the merger as compared to other business strategies that might be available to FEI, nor does it address the underlying business decision of FEI to proceed with the merger. Credit Suisse First Boston was not requested to, and did not, solicit third party indications of interest in acquiring all or any part of FEI.

In preparing its opinion, Credit Suisse First Boston performed a variety of financial and comparative analyses. The preparation of a fairness opinion is a complex process and is not necessarily susceptible to partial analysis or summary description. Credit Suisse First Boston believes that its analyses must be considered as a whole and that selecting portions of its analyses and of the factors considered by it, without considering all analyses and factors, could create a misleading view of the processes underlying the Credit Suisse First Boston opinion. No company or transaction used in the analyses performed by Credit Suisse First Boston as a comparison is identical to FEI, Veeco or the contemplated merger. In addition, Credit Suisse First Boston may have given various analyses more or less weight than other analyses, and may have deemed various assumptions more or less probable than other assumptions, so that the range of valuation resulting from any particular analysis described below should not be taken to be Credit Suisse First Boston's view of the actual value of FEI or Veeco. The analyses performed by Credit Suisse First Boston are not necessarily indicative of actual values or actual future results, which may be significantly more or less favorable than suggested by such analyses. In addition, analyses relating to the value of businesses or assets do not purport to be appraisals or to necessarily reflect the

prices at which businesses or assets may actually be sold. The analyses performed were prepared solely as part of Credit Suisse First Boston's analysis of the fairness, from a financial point of view, of the merger exchange ratio to holders of FEI common stock, other than PBE and its affiliates, and were provided to the FEI board of directors in connection with the delivery of the Credit Suisse First Boston opinion.

The following is a summary of material financial analyses performed by Credit Suisse First Boston in connection with the preparation of its opinion and reviewed with the FEI board of directors at a meeting of the FEI board of directors held on July 10, 2002. Certain of the following summaries of financial analyses that were performed by Credit Suisse First Boston include information presented in tabular format. In order to understand fully the material financial analyses that were performed by Credit Suisse First Boston, the tables should be read together with the text of each summary. The tables alone do not constitute a complete description of the material financial analyses.

Transaction Multiples

Credit Suisse First Boston calculated several values implied by the merger exchange ratio (based on Veeco's closing share price on July 8, 2002), including the implied price per FEI share, the implied premium to FEI's closing share price on July 8, 2002, the implied pro forma fully-diluted ownership of FEI shareholders in Veeco (assuming the conversion of outstanding convertible debt of FEI and Veeco) and the implied FEI fully-diluted equity value and aggregate value of FEI. The following table summarizes the results of this analysis:

Implied Price Per FEI Share	Implied Premium to Market Price of FEI Shares on July 8, 2002	Implied Pro Forma Fully-Diluted FEI Ownership in Veeco	Implied FEI Fully-Diluted Equity Value	Implied FEI Fully-Diluted Aggregate Value
$32.05	44.1%	59.3%	$ 1,089.1 million	$ 1,007.1 million

Credit Suisse First Boston also calculated the implied fully-diluted aggregate value of FEI and Veeco as a multiple of estimated revenues for calendar years 2002 and 2003 and the implied price per share as a multiple of estimated earnings per share for calendar years 2002 and 2003. These implied values were based on closing share prices for FEI and Veeco on July 8, 2002. These multiples were calculated using the average of publicly available forecasts prepared by securities research analysts. The following table summarizes the results of this analysis:

	Multiples Implied by Market Price Per Share		Multiples Implied by Merger Exchange Ratio
Implied Multiples	**Veeco**	**FEI**	**FEI**
Implied Fully-Diluted Aggregate Value/Calendar Year 2002 Estimated Revenue	2.0x	2.0x	3.0x
Implied Fully-Diluted Aggregate Value/Calendar Year 2003 Estimated Revenue	1.6x	1.6x	2.4x
Implied Price Per Share/Estimated Earnings Per Share For Calendar Year 2002	157.7x	28.1x	40.6x
Implied Price Per Share/Estimated Earnings Per Share For Calendar Year 2003	24.4x	15.2x	21.9x

Veeco Historical Stock Trading Performance

Credit Suisse First Boston analyzed the prices at which Veeco common stock traded from January 2, 2001 through July 8, 2002. Credit Suisse First Boston noted that the high closing price of Veeco common stock during this period was $64.13 on January 18, 2001, and that the low closing price of Veeco common stock was $21.10 on September 20, 2001. Credit Suisse First Boston also noted the average closing price of Veeco common stock over various periods prior to July 8, 2002 as summarized below:

Period Prior to July 8, 2002	Average Closing Price
July 8, 2002	$ 23.65
Last 5 trading days	$ 22.67
Last 10 trading days	$ 22.60
Last 30 trading days	$ 25.46

Period Prior to July 8, 2002	Average Closing Price
Last 60 trading days	$ 28.47
Last 90 trading days	$ 29.43

Credit Suisse First Boston also analyzed the prices at which Veeco common stock traded from January 2, 1997 through July 8, 2002. Credit Suisse First Boston noted that the high closing price of Veeco common stock during this period was $115.50 on September 27, 2000, and that the low closing price of Veeco common stock was $19.19 on December 15, 1997. Credit Suisse First Boston also noted the average closing price of Veeco common stock over various periods prior to July 8, 2002 as summarized below:

Period Prior to July 8, 2002	Average Closing Price
July 8, 2002	$ 23.65
Last 180 trading days	$ 30.53
Last Year	$ 30.88
Last 2 Years	$ 44.70

FEI Historical Stock Trading Performance

Credit Suisse First Boston analyzed the prices at which FEI common stock traded from January 2, 2001 through July 8, 2002. Credit Suisse First Boston noted that the high closing price of FEI common stock during this period was $42.10 on June 7, 2001, and that the low closing price of FEI common stock was $18.38 on March 19, 2001. Credit Suisse First Boston also noted the average closing price of FEI common stock over various periods prior to July 8, 2002, as summarized below:

Period Prior to July 8, 2002	Average Closing Price
July 8, 2002	$ 22.23
Last 5 trading days	$ 22.51
Last 10 trading days	$ 22.71
Last 30 trading days	$ 23.99
Last 60 trading days	$ 26.16
Last 90 trading days	$ 28.44

Historical Indexed Trading Performance

Credit Suisse First Boston compared the recent stock price performance of FEI with the recent stock price performance of Veeco, a composite index comprising 6 large-cap semiconductor equipment companies and a composite index comprising 4 optical/metrology companies over the period from January 2, 2001 through July 8, 2002. The following table sets forth the changes in such stock prices and indices over this period:

	Change from January 2, 2001
FEI	15.11%
Large-Cap Index	(8.3%)
Veeco	(35.2%)
Optical/Metrology Index	(63.1%)

Comparable Company Trading Analysis

Credit Suisse First Boston compared certain financial information of FEI and Veeco with that of other companies in the optical capital equipment/metrology and semiconductor equipment industries including:

Optical Capital Equipment/Metrology Companies
Newport Corp.
Rudolph Technologies Inc.
Therma Wave Inc.
Nanometrics Inc.
Large Cap Semiconductor Equipment Companies
Applied Materials Inc.
KLA-Tencor Corp.
ASML Holding NV
Novellus Systems Inc.
Teradyne Inc.
LAM Research Corp.
Mid-Cap Semiconductor Equipment Companies
Varian Semiconductor Equipment
Axcelis Technologies Inc.
ASM International N V
Brooks-PRI Automation Inc.
SEZ Holding AG

Such information included, among other things, the mean and median of several financial metrics for the companies in each industry sector, including prices per share as a multiple of estimated earnings per share for calendar years 2002 and 2003 and fully-diluted aggregate values as a multiple of estimated revenues for calendar years 2002 and 2003. The multiples were calculated using publicly available information and the average of publicly available forecasts prepared by securities research analysts. The following table summarizes the results of this analysis:

	Price Per Share/ Estimated Earnings Per Share		Fully-Diluted Aggregate Value/Estimated Revenue	
	Calendar Year 2002	Calendar Year 2003	Calendar Year 2002	Calendar Year 2003
FEI	28.1x	15.2x	2.0x	1.6x
Veeco	157.7x	24.4x	2.0x	1.6x
Optical Capital Equipment/Metrology Companies				
Median	49.0x	31.8x	2.9x	1.7x
Mean	49.0x	47.3x	2.8x	1.8x
Large Cap Semiconductor Equipment Companies				
Median	65.9x	23.4x	3.9x	2.4x
Mean	59.0x	25.8x	3.8x	2.6x
Mid-Cap Semiconductor Equipment Companies				
Median	183.6x	26.5x	2.6x	1.8x
Mean	183.6x	26.0x	2.4x	1.6x

No company utilized as a comparison in the Comparable Company Trading Analysis is identical to FEI or Veeco. Mathematical analysis, such as determining the mean or the median, is not in itself a meaningful method of using comparable market trading data.

Exchange Ratio Analysis

Credit Suisse First Boston calculated the ratio of FEI's closing share price to Veeco's closing share price for each trading day over various periods ended July 8, 2002, and derived from such values the average of such ratios for each such period (the average market exchange ratio). Credit Suisse First Boston then compared the average market exchange ratio over such periods with the market exchange ratio on July 8, 2002 and the merger exchange ratio to determine the premium/(discount) of the market exchange ratio on July 8, 2002 and the merger exchange ratio to the average market exchange ratio for each period. The following table summarizes the results of this analysis:

	Premium/(Discount) to Average Market Exchange Ratio Over Period

Observation Period	Average Market Exchange Ratio Over Period	Market Exchange Ratio on July 8, 2002	Merger Exchange Ratio
Since June 1, 1995, (Date of FEI initial public offering)	0.527x	78.5%	157.3%
Last 180 trading days	0.975x	(3.6%)	39.0%
Last 90 trading days	0.968x	(2.9%)	40.0%
Last 60 trading days	0.923x	1.9%	46.8%
Last 30 trading days	0.947x	(0.7%)	43.2%
Last 10 trading days	1.006x	(6.5%)	34.7%
July 8, 2002	0.940x	0.0%	44.1%

Contribution Analysis

Credit Suisse First Boston analyzed the relative contributions of FEI and Veeco to the pro forma revenue, operating income, net income and earnings per share of the combined company for calendar years 2000 through 2003. Estimates for calendar years 2002 and 2003 were based on the average of publicly available forecasts prepared by securities research analysts. Credit Suisse First Boston calculated certain values implied by such relative contributions, including the implied exchange ratio and the premium/(discount) to FEI's closing share price on July 8, 2002 implied by such implied exchange ratios. The following table summarizes the results of this analysis:

	Implied Exchange Ratio	Implied Premium/(Discount) to Market Price Per Share
Revenue		
Calendar Year 2000A	0.827x	(12.0%)
Calendar Year 2001A	0.814x	(13.4%)
Calendar Year 2002E	0.978x	4.0%
Calendar Year 2003E	0.953x	1.4%
Gross Profit		
Calendar Year 2000A	0.780x	(17.1%)
Calendar Year 2001A	0.870x	(7.5%)
Calendar Year 2002E	1.058x	12.6%
Calendar Year 2003E	1.025x	9.0%
Operating Income		
Calendar Year 2000A	0.912x	(3.0%)
Calendar Year 2001A	1.085x	15.4%
Calendar Year 2002E	3.032x	222.6%
Calendar Year 2003E	1.559x	65.8%
Net Income		
Calendar Year 2000A	0.747x	(20.6%)
Calendar Year 2001A	0.975x	3.7%
Calendar Year 2002E	4.445x	372.8%
Calendar Year 2003E	1.485x	58.0%
Earnings Per Share		
Calendar Year 2000A	0.733x	(22.1%)
Calendar Year 2001A	0.925x	(1.6%)
Calendar Year 2002E	5.267x	460.3%
Calendar Year 2003E	1.505x	60.1%

Precedent Exchange Ratio Premiums Analysis

Credit Suisse First Boston reviewed the exchange ratio premiums paid in the following 25 merger-of-equals transactions in the technology industry since 1994:

SmartForce/SkillSoft	USWeb/Whittman-Hart
Oplink/Avanex	Interactive Pictures/Bamboo.com
Proxim/Western Multiplex	Earthlink/Mindspring
PRI Automation/Brooks Automation	JDS Fitel/Uniphase
Virata/GlobeSpan	Integrated Process Equipment/SpeedFam
KANA/Broadbase	N2K/CDNow
Floware/BreezeCOM	Pure Atria/Rational Software
Software.com/Phone.com	U.S. Robotics/3Com

Jupiter/Media Metrix	Tencor Instruments/KLA Instruments
HMT Technology/Komag	Atria Software/Pure Software
Apex/Cybex Computer Products	Integrated Silicon Systems/ArcSys
Mission Critical Software/NetIQ	SynOptics/Wellfleet
Borland/Corel	

For each transaction, Credit Suisse First Boston calculated the premium/(discount) implied by the exchange ratio in the transaction relative to the average of the daily ratio of the closing stock price for the target company and the acquiror company in the transaction over various periods prior to public announcement of the transaction. Credit Suisse First Boston applied the average of such premiums/(discounts) to the average of the daily ratio of the closing price of FEI common stock and Veeco common stock over the same periods to calculate the implied exchange ratios for such periods. The following table summarizes the results of this analysis:

Exchange Ratio Premiums Paid in 25 Precedent Technology Merger-of-Equals Transactions Since 1994

	Trailing 90 Days	Trailing 60 Days	Trailing 30 Days	Trailing 10 Days	Market	Average
Average Premium/(Discount) in Precedent Transactions	11.7%	12.2%	13.8%	17.4%	16.6%	14.3%
Implied Merger Exchange Ratio Based on Precedent Average Premium/(Discount)	1.082x	1.035x	1.077x	1.181x	1.096x	1.094x

Credit Suisse First Boston also reviewed the exchange ratio premiums/(discounts) paid in 299 precedent stock-for-stock transactions in the technology industry since January 1, 1990 and 99 precedent stock-for-stock transactions in the technology industry above $1 billion since January 1, 1990. For each group of transactions, Credit Suisse First Boston calculated the premium/(discounts) implied by the exchange ratio in each transaction relative to the average of the daily ratio of the closing stock price for the target company and the acquiror company in the transaction over various periods prior to public announcement of the transaction. Credit Suisse First Boston then applied the average of such premiums for each group to the average of the daily ratio of the closing price of FEI common stock and Veeco common stock over the same periods to calculate the implied exchange ratios. The following tables summarize the results of this analysis:

Exchange Ratio Premiums Paid in 299 Precedent Stock-for-Stock Technology Transactions Since January 1, 1990

	Last Twelve Months Average	Trailing 90 Days	Trailing 60 Days	Trailing 30 Days	Trailing 10 Days	Market	Average
Average Premium/(Discount) in Precedent Transactions	21.5%	36.5%	40.8%	42.1%	39.4%	34.4%	35.8%
Implied Merger Exchange Ratio Based on Precedent Average Premium/(Discount)	1.200x	1.322x	1.299x	1.345x	1.401x	1.263x	1.306x

Exchange Ratio Premiums Paid in 99 Precedent Stock-for-Stock Technology Transactions Above $1 Billion Since January 1, 1990

	Last Twelve Months Average	Trailing 90 Days	Trailing 60 Days	Trailing 30 Days	Trailing 10 Days	Market	Average
Average Premium/(Discount) in Precedent Transactions	39.0%	42.3%	44.3%	44.7%	41.6%	36.4%	41.4%
Implied Merger Exchange Ratio Based on Precedent Average Premium/(Discount)	1.373x	1.378x	1.332x	1.370x	1.424x	1.283x	1.360x

No transaction utilized as a comparison in the precedent exchange ratio premiums analysis is identical to the merger. Mathematical analysis, such as determining the average or the median, is not in itself a meaningful method of using comparable transaction data.

Discounted Cash Flow Analysis

Using a discounted cash flow analysis, Credit Suisse First Boston calculated various implied exchange ratios based on financial forecasts for calendar years 2002 through 2008 for FEI and Veeco. The forecasts for calendar years 2002 and 2003 were based on the average of publicly available forecasts prepared by securities research analysts. The forecasts for calendar years 2004 through 2008 were based on forecasts approved by the managements of FEI and Veeco, respectively. Such forecasts included various operating assumptions, such as assumptions relating to revenue growth rates, operating income margins, working capital, capital expenditures and depreciation. Credit Suisse First Boston's analysis used discount rates ranging from 15% to 17% and terminal multiples of unlevered net income of 20.0x to 30.0x. The following tables summarize the results of this analysis:

Implied Exchange Ratio Based on an Unlevered Forward Net Income Multiple of 25.0x

Veeco Discount Rate	FEI Discount Rate		
	15.0%	16.0%	17.0%
15.0%	1.253x	1.203x	1.154x
16.0%	1.308x	1.256x	1.205x
17.0%	1.366x	1.310x	1.258x

Implied Exchange Ratio Based on a Discount Rate of 16.0%

	FEI Unlevered Forward Net Income Multiple		
Veeco Unlevered Forward Net Income Multiple	20.0x	25.0x	30.0x
20.0x	1.263x	1.511x	1.756x
25.0x	1.050x	1.256x	1.459x
30.0x	0.898x	1.074x	1.249x

Pro Forma Earnings Per Share Impact Analysis

Credit Suisse First Boston analyzed certain pro forma effects expected to result from the merger, including, among other things, the expected effect of the merger on the estimated earnings per share for FEI and Veeco for calendar year 2003. The following table sets forth estimated accretion/(dilution)

to FEI's and Veeco's earnings per share for such periods based on the average of publicly available forecasts prepared by securities research analysts, and assuming no synergies arising from the merger:

Pro Forma Earnings Per Share Impact Excluding Synergies

Accretion/(Dilution) to Veeco			Accretion/(Dilution) to FEI		
March 31, 2003	June 30, 2003	Calendar Year 2003	March 31, 2003	June 30, 2003	Calendar Year 2003
20.9%	10.2%	9.6%	(10.3%)	(5.8%)	(5.5%)

Credit Suisse First Boston also analyzed the expected effect of the merger on the estimated earnings per share for FEI and Veeco for calendar year 2003 based on synergies anticipated by the managements of FEI and Veeco to result from the merger. The following table sets forth estimated accretion/(dilution) to FEI's and Veeco's earnings per share for such periods based on the average of publicly available forecasts prepared by securities research analysts:

Pro Forma Earnings Per Share Impact Including Synergies

Accretion/(Dilution) to Veeco	Accretion/(Dilution) to FEI
Calendar Year 2003	Calendar Year 2003
20.8%	4.2%

The actual results achieved by the combined company after the merger may vary from such estimated results and the variations may be material.

Credit Suisse First Boston's opinion and presentation to the FEI board of directors was one of many factors taken into consideration by the FEI board of directors in making its determination to engage in the merger. Consequently, the analyses described above should not be viewed as determinative of the opinion of the FEI board of directors or the management of FEI with respect to the value of FEI or whether the FEI board of directors would have been willing to agree to a different exchange ratio.

The FEI board of directors retained Credit Suisse First Boston to act as its financial advisor in connection with the merger. Credit Suisse First Boston was selected by the FEI board of directors based on Credit Suisse First Boston's qualifications, expertise and reputation. Credit Suisse First Boston is an internationally recognized investment banking and advisory firm. Credit Suisse First Boston, as part of its investment banking business, is continuously engaged in the valuation of businesses and securities in connection with mergers and acquisitions, leveraged buyouts, negotiated underwritings, competitive biddings, secondary distributions of listed and unlisted securities, private placements and valuations for corporate and other purposes. In the past, Credit Suisse First Boston and its affiliates have provided investment banking and financial services to FEI unrelated to the merger for which it received compensation, and Credit Suisse First Boston may, in the future, provide investment banking and financial services to Veeco for which it would expect to receive compensation. In the ordinary course of its business, Credit Suisse First Boston and its affiliates may actively trade the debt and equity securities of FEI and Veeco for their own accounts and for the accounts of customers and, accordingly, may at any time hold a long or short position in such securities.

Pursuant to an engagement letter dated as of January 25, 2002, as amended, FEI engaged Credit Suisse First Boston to provide financial advisory services to the FEI board of directors in connection with the merger, including, among other things, rendering its opinion. Pursuant to the terms of the engagement letter, FEI has agreed to pay Credit Suisse First Boston a customary fee in connection therewith, a significant portion of which is contingent upon the consummation of the merger. Credit

Suisse First Boston will also receive a fee for rendering its opinion. In addition, FEI has agreed to reimburse Credit Suisse First Boston for its out-of-pocket expenses, including attorney's fees, incurred in connection with its engagement and to indemnify Credit Suisse First Boston and certain related persons against certain liabilities and expenses arising out of or in conjunction with its rendering of services under its engagement, including liabilities arising under the federal securities laws.

Structure of the Merger

Venice Acquisition Corp., a newly formed and wholly-owned subsidiary of Veeco, will be merged with and into FEI. As a result of the merger, the separate corporate existence of Venice Acquisition Corp., will cease and FEI will survive the merger as a wholly-owned subsidiary of Veeco. References to "Veeco FEI" in this joint proxy statement/prospectus are references to Veeco as it will be renamed following the merger.

Board of Directors and Management of Veeco FEI After the Merger

Board of Directors of Veeco FEI. The Veeco board of directors currently consists of nine members. Upon completion of the merger, Veeco FEI will increase the size of its board of directors to thirteen directors, seven of whom will be nominated by Veeco from the current members of the Veeco board of directors (including Edward H. Braun), five of whom will be nominated by FEI from the current members of the FEI board of directors (including Vahé A. Sarkissian) and one of whom will be nominated by PBE, FEI's largest shareholder, in accordance with the terms of an investor agreement among Veeco, FEI and PBE. Other than Edward H. Braun, the current Chairman, CEO and President of Veeco, and Vahé A. Sarkissian, the current Chairman, CEO and President of FEI, none of the other directors will be employees of Veeco FEI.

Veeco's bylaws provide for a staggered board of directors, composed of three separate classes, Class I, Class II and Class III. Veeco, FEI and PBE have agreed that two Veeco nominees and two FEI nominees will serve as Class III directors for terms expiring at Veeco FEI's 2003 annual meeting of stockholders, two Veeco nominees and two FEI nominees will serve as Class I directors for terms expiring at Veeco FEI's 2004 annual meeting of stockholders and three Veeco nominees, one FEI nominee and one PBE nominee will serve as Class II directors for terms expiring at Veeco FEI's 2005 annual meeting of stockholders. Under the Veeco FEI bylaws, directors may be removed only for cause and only by a vote of the stockholders.

PBE's right to appoint a director to the Veeco FEI board of directors will end upon the earlier to occur of:

Veeco FEI's 2005 annual meeting of stockholders; or

The date when Philips ceases to own at least 7.5% of Veeco FEI's outstanding common stock.

The affirmative vote of a majority of the members of the board of directors of Veeco FEI will be required to change the size of the Veeco FEI board of directors.

The individuals nominated by Veeco, FEI and PBE to be directors of Veeco FEI upon completion of the merger and their ages as of June 30, 2002 are:

Name*	Age	Designee of:	Class	For a Term Expiring at the Annual Meeting Stockholders in:
Edward H. Braun	62	Veeco	II	2005
TBD		Veeco	II	2005
TBD		Veeco	II	2005
TBD		Veeco	I	2004
TBD		Veeco	I	2004
TBD		Veeco	III	2003
TBD		Veeco	III	2003
Vahé A. Sarkissian	59	FEI	II	2005
TBD		FEI	I	2004
TBD		FEI	I	2004
TBD		FEI	III	2003
TBD		FEI	III	2003
TBD		PBE	II	2005

* The other individuals who will serve on the Veeco FEI board of directors have not been determined as of the date of this joint proxy statement/prospectus.

For information concerning the directors nominated by Veeco, see Veeco's proxy statement used in connection with its 2002 annual meeting of stockholders, the relevant portions of which are incorporated by reference into Veeco's annual report on Form 10-K for the fiscal year ended December 31, 2001. For information concerning the directors nominated by FEI [and PBE], see FEI's proxy statement used in connection with its 2002 annual meeting of shareholders, the relevant portions of which are incorporated by reference into FEI's annual report on Form 10-K for the fiscal year ended December 31, 2001.

Committees of the Veeco FEI Board of Directors. Upon completion of the merger, the board of directors of Veeco FEI will have three committees: (1) a nominating committee, (2) an audit committee and (3) a compensation committee. Each committee will be comprised of three members who will be elected by a majority of the Veeco FEI board of directors.

The affirmative vote of a majority of the members of the board of directors of Veeco FEI will be required to modify the powers and authority of any committee of the Veeco FEI board of directors. In addition, the Veeco FEI board of directors may remove a director from a committee, change the size of any committee, terminate any committee or change the chair of a committee only with the affirmative vote of a majority of the members of the Veeco FEI board of directors.

Compensation of Directors. In accordance with existing practice of Veeco, it is expected that directors of Veeco FEI who are also full-time employees of Veeco FEI will receive no additional compensation for their services as directors. Each non-employee director will be entitled to receive a fee of $2,000 for each board meeting held in person, $1,000 for each board meeting held by conference call and $1,000 for each committee meeting. Pursuant to Veeco FEI's 2000 Stock Option Plan, each non-employee director who meets the eligibility criteria for such plan will receive an annual grant of options to purchase 7,000 shares of Veeco FEI common stock with an exercise price equal to the fair market value of a share of Veeco FEI common stock on the date of grant.

Executive Officers of Veeco FEI. The principal executive officers of Veeco FEI upon completion of the merger, and their ages as of June 30, 2002, will be as follows:

Name	Age	Title
Edward H. Braun	62	President and Chief Executive Officer
Vahé A. Sarkissian	59	Chairman and Chief Strategy Officer
John F. Rein, Jr.	55	Executive Vice President, Chief Financial Officer, Treasurer and Secretary

Veeco FEI expects to designate additional executive officers prior to completion of the merger the identities of which have not been determined as of the date of this joint proxy statement/prospectus.

Edward H. Braun, the current Chairman, President and Chief Executive Officer of Veeco will remain the President and Chief Executive Officer of Veeco FEI. Vahé A. Sarkissian, the current Chairman, President and Chief Executive Officer of FEI will become the Chairman and Chief Strategy Officer of Veeco FEI. John F. Rein, Jr., the current Chief Financial Officer of Veeco will remain the Chief Financial Officer of Veeco FEI.

A summary of the responsibilities of the President and Chief Executive Officer and Chairman is as follows:

President and Chief Executive Officer The President and Chief Executive Officer will be the chief executive officer of Veeco FEI and will be responsible for the general and active management of the business of Veeco FEI and for seeing that all orders and resolutions of the Veeco FEI board of directors are carried into effect. The President and Chief Executive Officer's role will be to run Veeco FEI and he will be responsible for its operating results. He will also be the chief external representative of Veeco FEI. The President and Chief Executive Officer will have general powers of supervision over the business of Veeco FEI. The officers of Veeco FEI will report to the President and Chief Executive Officer and the President and Chief Executive Officer will report to the Veeco FEI board of directors. The President and Chief Executive Officer will work with the Chairman to plan and develop the strategy for Veeco FEI and the setting of goals and financial performance measures. The President and Chief Executive Officer will co-chair Veeco FEI's Integration Steering Committee and Veeco FEI's Strategic Review Board and will also perform such other duties and may exercise such other powers as may from time to time be assigned to him by the Veeco FEI board of directors. The President and Chief Executive Officer may be removed only by a two-thirds vote of the Veeco FEI

board of directors other than the officer proposed to be removed (if such officer is a member of the Veeco FEI board of directors).

Chairman The Chairman will preside at all meetings of the Veeco FEI board of directors and of the stockholders and will have the powers and duties commensurate with chairmen of publicly-traded entities. The Chairman will manage the board-level governance of Veeco FEI. The Chairman will work with the Chief Executive Officer of Veeco FEI to plan and develop the strategy for Veeco FEI and to set goals and financial performance measures of Veeco FEI. The Chairman will co-chair Veeco FEI's Integration Steering Committee and Veeco FEI's Strategic Review Board and will also perform such other duties and may exercise such other powers as may from time to time be assigned to him by the Veeco FEI board of directors. The Chairman may be removed only by a two-thirds vote of the Veeco FEI board of directors other than the officer proposed to be removed (if such officer is a member of the Veeco FEI board of directors).

The current heads of the respective divisions/segments of Veeco and FEI will continue in those roles and report directly to the Chief Executive Officer of Veeco FEI.

For a more detailed description of the agreements between Veeco and each of Edward H. Braun and Vahé A. Sarkissian, respectively, see the section titled "The Merger Interests of Executive Officers and Directors in the Merger" beginning on page 69.

Compensation of Executive Officers. Other than the employment agreements between Veeco and each of Edward H. Braun and Vahé A. Sarkissian, which were executed on July 11, 2002 and have been approved by the Veeco board of directors, the form and amount of the compensation to be paid to each of Veeco FEI's executive officers in any future period will be determined by the compensation committee of the Veeco FEI board of directors.

For information concerning the compensation paid to, and the employment agreements with, the chief executive officer and the other four most highly compensated executive officers of Veeco for the 2001 fiscal year, see Veeco's proxy statement used in connection with its 2002 annual meeting of stockholders, the relevant portions of which are incorporated by reference into Veeco's annual report on Form 10-K for the fiscal year ended December 31, 2001. For information concerning the compensation paid to, and the employment agreements with, the chief executive officer and the other four most highly compensated executive officers of FEI for the 2001 fiscal year, see FEI's proxy statement used in connection with its 2002 annual meeting of shareholders, the relevant portions of which are incorporated by reference into FEI's annual report on Form 10-K for the fiscal year ended December 31, 2001.

Interests of Executive Officers and Directors in the Merger

General. Certain directors and officers of FEI and Veeco may have interests in the merger that are different from, or in addition to, the interests of FEI shareholders and Veeco stockholders. Such additional interests are described below to the extent material.

Veeco FEI Board of Directors. In accordance with the terms of the merger agreement, the Veeco FEI board of directors will be comprised of thirteen members, seven of whom will be nominated by Veeco from Veeco's current board of directors, five of whom will be nominated by FEI from FEI's current board of directors and one of whom will be nominated by PBE.

Vahé A. Sarkissian, , , and from FEI's board of directors have been nominated by FEI and has been nominated by PBE to join the Veeco FEI board of directors. Edward H. Braun, , , , , and from Veeco's board of directors will continue as directors of Veeco FEI.

FEI Severance Agreements; Severance Payments. Several FEI officers, including Vahé A. Sarkissian, who is also a director, have severance agreements with FEI. These officers are, or may become, entitled to specific benefits under these agreements as a result of the merger. FEI has entered into severance agreements with each of the following FEI officers:

Officers	Position
Vahé A. Sarkissian	Chairman, President and Chief Executive Officer
John A. Doherty	Senior Vice President, Worldwide Sales
Jim D. Higgs	Senior Vice President, Human Resources
Bradley J. Thies	Vice President, General Counsel and Secretary
John M. Lindquist	Senior Vice President of Corporate Marketing
Stephen F. Loughlin	Vice President of Corporate Finance, acting Chief Financial Officer and Controller
Steven Berger	Senior Vice President and Chief Technical Officer
Michel Epsztein	

Officers	Position
	Senior Vice President and General Manager, Microelectronics Product Group

Under his current severance agreement with FEI, Mr. Sarkissian would have been entitled to significant severance payments and other benefits upon the closing of the merger. Mr. Sarkissian has entered into an employment agreement with Veeco that will supersede his current severance agreement and he will not, therefore be entitled to or receive any severance payments or other benefits under his current severance agreement. Mr. Sarkissian's new employment agreement is described below in the section titled "Employment Agreements."

FEI has also entered into severance agreements with the seven other FEI officers listed above. Under the terms of these agreements, each officer is entitled to severance pay in the event his employment is terminated within 18 months following a "change in control" of FEI other than a termination by FEI for cause, death or disability or by the officer without "good reason." Upon such a termination, the executive officer is entitled to a severance payment equal to two times his annual salary plus an amount equal to his target annual bonus for the year in which he is terminated, certain insurance benefits and accelerated vesting of his stock options. The merger of Veeco and FEI is expected to constitute a change of control under these agreements.

If the employment of any of FEI's officers is terminated following the merger under circumstances entitling them to benefits under their FEI severance agreements, he will be entitled to significant lump-sum severance payments.

Employment Agreements. Pursuant to the terms of the merger agreement, Veeco has entered into employment agreements, to be effective upon the closing of the merger, with Vahé A. Sarkissian, FEI's current Chairman, Chief Executive Officer and President, and Edward H. Braun, Veeco's current Chairman, Chief Executive Officer and President. Mr. Sarkissian's employment agreement provides that he will be the Chairman and Chief Strategy Officer of Veeco FEI. Mr. Sarkissian's employment agreement will, when it becomes effective, supersede his severance agreement with FEI, and he will not be entitled to any severance payments or other benefits under his current severance agreement with FEI. Mr. Braun's employment agreement provides that he will be the President and Chief Executive Officer of Veeco FEI. Mr. Braun's employment agreement will supersede his current employment agreement with Veeco. The material terms of Messrs. Sarkissian's and Braun's employment agreements are substantially the same. The table below provides a summary of these employment agreements.

Annual Base Salary	$600,000
Bonus	Up to 100% of annual base salary if performance standards set by board of directors are met
Benefits and Perquisites	Car allowance, benefits and perquisites available to Veeco FEI executives generally and stock options under Veeco FEI stock option plans
Severance	If terminated by Veeco FEI for any reason other than for cause, or if resigns for good reason: Severance payment equal to three times annual base salary; 100% of target bonus for year in which termination or resignation occurs; and Accelerated vesting of options, and three years to exercise options. If terminated by Veeco FEI for cause or resigns without good reason: Vesting of options terminates immediately; All compensation payments terminate immediately; and Severance benefits in accordance with Veeco FEI's established policies as then in effect, if any.

If terminated for any reason, or resigns for any reason for five years:
Participation in all group health and insurance programs, and all other benefits, fringe benefits and perquisites available generally to senior executives of Veeco FEI.

Under these agreements, termination for cause means:

Willful and continued failure by the executive to substantially perform reasonably assigned duties, other than a failure resulting from the executive's incapacity due to physical or mental illness, after the Veeco FEI board of directors delivers a demand for substantial performance which specifically identifies the manner in which the board believes that the executive has not substantially performed the executive's duties; or

Willful engagement by the executive in illegal conduct which is materially and demonstrably injurious to Veeco FEI. No act, or failure to act, on the executive's part will be considered "willful" unless done, or omitted to be done, without reasonable belief that the action or omission was in, or not opposed to, the best interests of Veeco FEI.

Under these agreements, resignation for good reason means:

- The assignment of a different title, job or responsibilities that results in a substantial decrease in the level of the executive's responsibility with respect to Veeco FEI's business;
- A reduction in the executive's base salary, other than a salary reduction that is part of a salary reduction affecting Veeco FEI employees generally;
- A significant reduction by Veeco FEI in total benefits available to the executive under cash incentive, stock incentive and other employee benefit plans;
- A material breach by Veeco FEI of its obligations under the employment agreement;
- The requirement that the executive travel on Veeco FEI business to an extent substantially inconsistent with his duties as Chairman and Chief Strategy Officer (in the case of Mr. Sarkissian) or President and Chief Executive Officer (in the case of Mr. Braun); or
- The movement of Veeco FEI's headquarters outside the continental United States.

If the severance and other benefits provided for by the employment agreements or otherwise payable to an executive constitute "parachute payments" within the meaning of Section 280G of the Internal Revenue Code and will be subject to the excise tax imposed by Section 4999 of the Internal Revenue Code, then the executive will receive:

- A payment sufficient to pay such excise tax; and
- An additional payment sufficient to pay the excise tax and federal and state income taxes arising from the payments made by Veeco FEI to the executive pursuant to the paragraph below.

If the excise tax incurred by the executive is determined by the IRS to be greater or less than the amount determined by the accounting firm the parties employed, then Veeco FEI and the executive agree to make such additional payment, including interest and any tax penalties, to the other party as the accountants reasonably determine is appropriate to ensure that the net economic effect to the executive, on an after-tax basis, is as if the Internal Revenue Code Section 4999 excise tax did not apply to him.

Each executive has agreed that, during the employment term and for two years after termination of his employment with Veeco FEI, he will not, in the United States or anywhere else in the world where Veeco FEI conducts business:

- Engage in any business that has a competing business purpose;

- Have any ownership interest in a company that engages in a competing business purpose (except for passive ownership of no more than 1% of a publicly traded company); or
- Participate in the financing, operation, management or control of any company that engages in a competing business purpose.

For purposes of these non-compete provisions, the phrase, "competing business purpose" means the designing, manufacturing, marketing and servicing of products that deposit or etch materials on a substrate or that provide critical measurements of certain features utilized in data storage

and semiconductor devices.

In addition, each executive has agreed that he will not, directly or indirectly, solicit, encourage or take any other action that is intended to induce or encourage, or has the effect of inducing or encouraging:

Any employee of Veeco FEI to terminate his or her employment with Veeco FEI (during the executive's employment term and for three years after termination of the executive's employment with Veeco FEI); or

Any customer, supplier or other business contact of Veeco FEI to terminate his, her or its relationship with Veeco FEI (during the executive's employment term and for two years after termination of the executive's employment with Veeco FEI).

Under Mr. Sarkissian's employment agreement, Veeco acknowledged that FEI and Mr. Sarkissian had amended Mr. Sarkissian's Non-Negotiable Promissory Note dated June 25, 1998 (in the principal amount of $1,115,530) to provide for (1) an extension of the due date of all amounts owed pursuant to such note from June 24, 2002 to June 24, 2005 and (2) an increase in the interest rate payable under such note from 5.58% per annum to 5.75% per annum. This amendment was made as of June 23, 2002.

FEI Option Plans. Under the merger agreement, all stock options to purchase shares of FEI common stock held by FEI officers and directors on the date of the merger will be converted into similar options to purchase Veeco FEI common stock.

Indemnification; Directors and Officers Insurance. From and after the closing of the merger, Veeco will, and will cause FEI, as a wholly-owned subsidiary of Veeco, to, fulfill and honor in all respects the obligations of FEI pursuant to any indemnification agreements between FEI and its directors and officers in effect immediately prior to the closing of the merger, subject to applicable law. The articles of incorporation and bylaws of FEI following the closing of the merger will contain provisions with respect to exculpation and indemnification that are at least as favorable to these indemnified persons as those provisions contained in the articles of incorporation and bylaws of FEI as in effect on the date of the merger agreement, which provisions will not be amended, repealed or otherwise modified for a period of six years from the closing of the merger in any manner that would adversely affect the rights of the indemnified persons thereunder, unless such modification is required by law. Also, for six years after the closing of the merger, FEI will, and Veeco will cause FEI to, maintain FEI's directors' and officers' liability insurance policy in respect of acts or omissions occurring prior to the completion of the merger, covering each person covered by FEI's officers' and directors' liability insurance policy in effect on July 11, 2002. FEI may substitute its own directors' and officers' policy of comparable coverage, but will not be obligated to pay annual premiums in excess of 200% of the premium payable by FEI therefor as of July 11, 2002. If FEI cannot obtain such comparable coverage for such 200% amount, FEI shall be entitled to reduce the amount of coverage to an amount that can be obtained for a premium equal to such 200% amount.

PBE. William E. Curran and Jan C. Lobbezoo, representatives of PBE, currently serve on the FEI board of directors.

has been nominated by PBE to serve on the Veeco FEI board

of directors in accordance with the terms of an investor agreement among Veeco, FEI and PBE. PBE also has entered into certain agreements with FEI and Veeco that will remain in effect after the merger, and PBE and Philips may enter into additional agreements with Veeco FEI after the merger. For additional information regarding certain of these agreements and other arrangements among FEI and Philips and PBE, see the section titled "Other Agreements" beginning on page 96 and the other public filings of FEI incorporated by reference herein. Also, see the section titled "Where You Can Find More Information" beginning on page 126.

Issuance of Shares in Connection with the Merger

The rules of The Nasdaq National Market, on which Veeco's common stock is listed, require stockholder approval for the issuance of shares of common stock in any transaction where the number of shares to be issued will be equal to 20% or more of the number of shares of common stock outstanding before the issuance. Veeco expects to issue approximately 44,000,000 shares of its common stock in the merger to FEI shareholders (and up to approximately 10,000,000 shares which may be issued in respect of FEI's options and other rights and convertible notes), representing approximately 185% of its shares of common stock outstanding before the issuance of its shares in the merger. Thus, Veeco is seeking stockholder approval of the issuance of the Veeco common stock in the merger.

Resale of Veeco Common Stock Issued in the Merger

The shares of Veeco FEI common stock to be issued in connection with the merger will be registered under the Securities Act, and will be freely transferable, except for shares of Veeco FEI common stock issued to any person deemed to be an "affiliate" of Veeco FEI for purposes of Rule 144 under the Securities Act, and to any person deemed to be an affiliate of FEI for purposes of Rule 145 under the Securities Act at the time the merger is submitted to a vote of the Veeco stockholders or the FEI shareholders, as applicable. Persons who may be deemed to be affiliates include individuals or entities that control, are controlled by, or are under common control with either Veeco or FEI, and may include some officers, directors and principal stockholders of Veeco and FEI. Affiliates of FEI prior to the merger may not sell shares of Veeco FEI common stock acquired in connection with the merger except pursuant to an effective registration statement under the Securities Act covering such shares, or in compliance with Rule 145 under the Securities Act or another applicable exemption from the registration requirements of the Securities Act. Affiliates of Veeco FEI after the merger may not sell shares of Veeco FEI common stock acquired in connection with the merger except pursuant to an effective registration statement under the Securities Act covering such shares, or in compliance with Rule 144 under the Securities Act or another applicable exemption from the registration requirements of the Securities Act.

Veeco's registration statement of which this joint proxy statement/prospectus forms a part does not cover the resale of Veeco FEI common stock to be received by FEI affiliates in the merger.

Listing of Veeco Common Stock Issued in the Merger

It is a condition to the closing of the merger that the shares of Veeco common stock to be issued in the merger be approved for listing on The Nasdaq National Market, subject to notice of issuance.

Delisting and Deregistration of FEI Common Stock; Cessation of Periodic Reporting

If the merger is consummated, the FEI common stock will cease to be listed on The Nasdaq National Market. In such event, FEI intends to apply to the SEC for the deregistration of such securities. Upon such deregistration, FEI will no longer be required to make separate periodic filings with the SEC under the Exchange Act.

Material U.S. Federal Income Tax Consequences of the Merger

Wilson Sonsini Goodrich & Rosati, Professional Corporation, and Kaye Scholer LLP, have provided opinions to FEI and Veeco, respectively, dated as of the effective date of the registration statement of which this joint proxy statement/prospectus forms a part, to the effect that the merger will qualify as a reorganization within the meaning of Section 368(a) of the Internal Revenue Code. These tax opinions have been filed with the SEC as exhibits 8.1 and 8.2 to the registration statement on Form S-4 of which this joint proxy statement/prospectus forms a part. The tax opinions rely on certain customary assumptions, including assumptions regarding the absence of changes in existing facts and the completion of the merger in accordance with this joint proxy statement/prospectus and the merger agreement. The tax opinions also rely on certain factual representations contained in officer's certificates of Veeco and FEI. These assumptions and representations must be true and accurate as of the effective date of the registration statement, and must continue to be true and accurate as of the closing of the merger, or the conclusions contained in the tax opinions and this tax discussion could be affected.

The tax opinions and this tax discussion assume that FEI shareholders hold their shares of FEI common stock as capital assets. Further, the tax opinions and this tax discussion do not address all of the U.S. federal income tax consequences that may be relevant to FEI shareholders in light of their particular circumstances; nor do the tax opinions or this tax discussion address the federal income tax consequences that may be applicable to taxpayers subject to special treatment under the Internal Revenue Code, such as:

Insurance companies;

Financial institutions;

Dealers in securities;

Traders that mark to market;

Tax-exempt organizations;

Shareholders who hold their shares as part of a hedge, appreciated financial position, straddle or conversion transaction;

Shareholders who acquired their FEI common stock through the exercise of options or otherwise as compensation or through a tax-qualified retirement plan;

Shareholders who are subject to the alternative minimum tax provisions of the Internal Revenue Code;

Shareholders whose functional currency is not the U.S. dollar; and

Foreign individuals (i.e., individuals who are not citizens or residents of the United States), foreign corporations, foreign partnerships or other foreign entities.

No information is provided in this document with respect to the tax consequences, if any, of the merger under applicable foreign, state, local and other tax laws. The tax opinions and this tax discussion are based upon the provisions of the Internal Revenue Code, applicable Treasury regulations, Internal Revenue Service rulings and judicial decisions, as in effect as of the date of this document.

There can be no assurance that future legislative, administrative or judicial changes or interpretations, which changes or interpretations could apply retroactively, will not affect the accuracy of the statements or conclusions set forth in the tax opinions or this tax discussion. No rulings have been or will be sought from the Internal Revenue Service concerning the tax consequences of the merger, and the tax opinions and this tax discussion as to the material U.S. federal income tax consequences of the merger will not be binding on the Internal Revenue Service or any court.

The tax opinions and this tax discussion do not purport to contain a complete analysis or discussion of all potential tax effects relevant to the merger. Thus, FEI shareholders are urged to consult their own tax advisors as to the specific tax consequences to them of the merger, including tax return reporting requirements, the applicability and effect of federal, state, local, foreign and other applicable tax laws and the effect of any proposed changes in the tax laws.

As set forth in the tax opinions, Wilson Sonsini Goodrich & Rosati, Professional Corporation, counsel to FEI, and Kaye Scholer LLP, counsel to Veeco, are of the opinion that the merger will qualify as a "reorganization" within the meaning of Section 368(a) of the Internal Revenue Code and that the following material U.S. federal income tax consequences will result from such qualification:

FEI shareholders will not recognize any gain or loss upon the exchange of their FEI common stock solely for shares of Veeco common stock pursuant to the merger, except for gain resulting from the receipt of cash instead of a fractional share of Veeco common stock;

The aggregate tax basis of the shares of Veeco common stock received solely in exchange for shares of FEI common stock pursuant to the merger, including fractional shares of Veeco common stock for which cash is received, will be the same as the aggregate tax basis of the shares of FEI common stock exchanged for them;

The holding period for shares of Veeco common stock received in exchange for shares of FEI common stock pursuant to the merger will include the holding period of the shares of FEI common stock exchanged for them; and

An FEI shareholder who receives cash instead of a fractional share of Veeco common stock will be treated as having received the fractional share in the merger and then as having the fractional share redeemed by Veeco in a distribution under section 302 of the Internal Revenue Code. Accordingly, these shareholders should generally recognize gain or loss equal to

the difference, if any, between the tax basis of the fractional share and the amount of cash received. The gain or loss generally will be capital gain or loss and, in the case of individuals, long-term capital gain (eligible for reduced rates of taxation) or loss if the FEI common stock exchanged has been held for more than one year.

Other Tax Matters. It is a condition to the obligations of FEI and Veeco to consummate the merger that Wilson Sonsini Goodrich & Rosati, Professional Corporation, counsel to FEI, and Kaye Scholer LLP, counsel to Veeco, each renders an opinion to its respective client, dated as of the closing date of the merger, to the effect that the merger will qualify as a "reorganization" within the meaning of Section 368(a) of the Internal Revenue Code. These opinions will be based on updated representations contained in officer's certificates to be provided by FEI and Veeco as of the closing date of the merger, and on customary factual representations.

Accounting Treatment of the Merger

The merger will be accounted for using the purchase method for financial reporting and accounting purposes. After the merger, the results of operations of FEI will be included in the consolidated financial statements of Veeco.

Regulatory Filings and Approvals Required to Complete the Merger

The merger is subject to the requirements of the HSR Act, which prevents some transactions from being completed until required information and materials are furnished to the Antitrust Division of the Department of Justice and the Federal Trade Commission and the appropriate waiting periods are terminated or expire. Veeco, FEI and Philips have filed the required information and materials with the Antitrust Division of the Department of Justice and the Federal Trade Commission. The requirements of the HSR Act will be satisfied if the merger is completed within one year after the termination or expiration of this waiting period. Additionally, the transaction is subject to notification to the Federal Cartel Office pursuant to the competition laws of Germany.

If, prior to the expiration of the waiting period, the FTC or the Antitrust Division should request additional information or documentary material under the HSR Act, completion of the merger could be delayed until after the companies have substantially complied with the request. On August 12, 2002, the Antitrust Division of the Department of Justice contacted Veeco and FEI and has advised them that it intends to conduct a preliminary inquiry into the transaction. At any time before or after the closing of the merger, the Antitrust Division of the Department of Justice, the Federal Trade Commission, as well as a foreign regulatory agency or government could challenge the merger and take action under applicable antitrust laws. Other persons could take action under applicable antitrust laws, including seeking to enjoin the merger. Additionally, at any time before or after the completion of the merger, even if the applicable waiting period under the HSR Act expired or was terminated, any state could take action under applicable antitrust laws. A challenge could be made to the merger and, if such a challenge is made, FEI and Veeco might not prevail.

Both Veeco and FEI conduct business in a multitude of foreign nations. The laws of these nations, including, Germany, may require Veeco and/or FEI to make certain filings with certain regulatory bodies in these countries. In Germany, the merger is subject to review by the German Federal Cartel Office. The parties must observe a waiting period that may be extended by the Federal Cartel Office if it should decide that the transaction warrants further investigation. Veeco and FEI are required to make pre-merger notification filings in Germany and intend to make such filings shortly. Veeco FEI is required to make a post-closing notification filing in Japan in connection with the merger.

Neither Veeco nor FEI is aware of any other material governmental or regulatory approval required for closing the merger, other than the effectiveness of the registration statement of which this joint proxy statement/prospectus forms a part and compliance with the Delaware General Corporation Law and the Oregon Business Corporation Act. See the section titled "The Merger Agreement Certain Covenants Antitrust Matters" on page 83.

Closing and Effectiveness of the Merger

Unless otherwise agreed by Veeco and FEI, the merger will be completed no later than the second business day following the date on which all of the conditions to closing of the merger are satisfied or waived, including the approval of the merger by the FEI shareholders and the approval of the issuance of Veeco common stock in connection with the merger and the amendment to Veeco's Amended and Restated Certificate of Incorporation to increase the authorized shares of Veeco's common stock by the Veeco stockholders. The merger will become effective upon the filing of articles of merger with the Secretary of State of Oregon.

THE MERGER AGREEMENT

The following is a brief summary of certain material provisions of the merger agreement. This summary does not purport to be complete and is qualified in its entirety by reference to the merger agreement. The merger agreement is attached as Appendix A to this joint proxy statement/prospectus. We urge you to carefully review the merger agreement.

Structure of the Merger

The merger agreement provides that Venice Acquisition Corp. will be merged with and into FEI, the separate existence of Venice Acquisition Corp. will cease and FEI will continue as the surviving corporation and a direct wholly-owned subsidiary of Veeco. As a result of the merger, the surviving corporation will possess all the property, rights and franchises of FEI and Venice Acquisition Corp., and will be subject to all the debts, restrictions and duties of FEI and Venice Acquisition Corp.

Closing of the Merger

The closing of the merger will take place no later than the second business day after satisfaction or waiver of the conditions to the merger (unless another time is agreed to by the parties). At such time, Veeco and FEI will file articles of merger with the Secretary of State of Oregon and make all other filings or recordings required by the Oregon Business Corporation Act in connection with the merger. The merger will become effective upon such filing with the Secretary of State of Oregon or at such later time as is specified in the articles of merger. If the FEI shareholders and the Veeco stockholders approve the merger, the closing of the merger is expected to occur as soon as practicable following the FEI special meeting and the Veeco special meeting.

Merger Consideration

General. As of the closing of the merger, each outstanding share of FEI common stock will be converted into the right to receive 1.355 shares of Veeco common stock. Veeco will not issue fractional shares of Veeco common stock in exchange for shares of FEI common stock in the merger. Veeco will pay a holder of shares of FEI common stock an appropriate amount of cash in lieu of any fractional shares otherwise issuable. Such cash amount will be based upon the closing price per share of Veeco common stock on the trading day immediately preceding the closing of the merger.

No Appraisal/Dissenters' Rights. In connection with the merger, neither Veeco nor FEI shareholders are entitled to appraisal/dissenters' rights under the Delaware General Corporation Law or the Oregon Business Corporation Act.

Exchange of Certificates. On or prior to the closing date of the merger, Veeco will select a reputable bank or trust company to act as exchange agent in the merger. Promptly, but no more than three days after the closing of the merger, Veeco will deposit with the exchange agent certificates representing the shares of Veeco common stock issuable in the merger and cash sufficient to make payments in lieu of fractional shares in the merger.

As soon as is reasonably practicable after the closing of the merger, the exchange agent will mail to each record holder of a certificate which, before the merger, represented shares of FEI common stock:

A letter of transmittal; and

Instructions for use in effecting the surrender of the certificate(s) previously representing shares of FEI common stock in exchange for certificates representing Veeco common stock.

Upon surrender of such certificate(s) to the exchange agent, together with a properly completed letter of transmittal covering such shares and other customary documentation, the holder of such

certificate(s) will be entitled to receive in exchange therefor a certificate representing the number of whole shares of Veeco common stock that such holder has the right to receive and cash in lieu of any fractional share. The stock certificate previously representing shares of FEI common stock shall be canceled. As of the closing of the merger, all shares of FEI common stock will no longer be outstanding and will automatically be canceled and retired and will cease to exist. Each holder of a certificate previously representing any such shares of FEI common stock will cease to have any rights with respect to those shares, other than the right to receive the shares of Veeco common stock (and cash in lieu of fractional shares) upon surrender of the certificate(s) representing such shares of FEI common stock, as contemplated by the merger agreement. **FEI shareholders should not forward their FEI stock certificates to the exchange agent without a letter of transmittal. FEI shareholders should NOT return their stock certificates with the enclosed proxy.**

FEI Options. As of the closing of the merger, each outstanding option to purchase shares of FEI common stock will be assumed by Veeco and converted, in accordance with its terms, into an option to purchase the number of shares of Veeco FEI common stock equal to 1.355 multiplied by the number of shares of FEI common stock which could have been obtained immediately prior to the merger upon the exercise of such option, rounded to the nearest whole share. Following the closing of the merger, the exercise price under any such option will be equal to the exercise price per share of FEI common stock thereunder immediately prior to the closing of the merger, divided by 1.355, rounded to the nearest whole cent. In general, the other terms and conditions of each FEI option will continue to apply in accordance with the terms of the stock option plan or other arrangement under which the option was issued. Not later than the date on which the merger becomes effective, Veeco will file a registration statement on Form S-8 with the SEC relating to the shares of Veeco common stock issuable upon the exercise of FEI options assumed by Veeco in the merger.

FEI Convertible Debt. The FEI notes shall be assumed by Veeco and become convertible solely into such number of shares of Veeco FEI common stock that would have been issued if the FEI notes had been converted into FEI common stock immediately prior to the closing of the merger. The FEI notes shall continue to be governed by and subject to the Indenture, dated as of August 3, 2001, between FEI and BNY Western Trust Company under which the FEI notes were originally issued, but shall be convertible solely into shares of Veeco FEI common stock as described above. On a date no later than the date on which the merger becomes effective, Veeco will file a registration statement on Form S-3 relating to the resale of the FEI notes and the Veeco common stock issuable upon conversion of the FEI notes.

Representations and Warranties

The merger agreement contains generally reciprocal representations and warranties made by each of Veeco and Venice Acquisition Corp., on the one hand, and FEI, on the other, regarding aspects of their respective businesses, financial condition and structure, as well as other facts pertinent to the merger. These representations and warranties relate to the following subject matters with respect to each party:

Due organization, existence and good standing, corporate power and authority, and qualifications or licensing to do business;

Capitalization;

The authorization, execution and delivery of the merger agreement and the validity and enforceability thereof;

Compliance in all material respects with the Securities Act and the Exchange Act in connection with the documents filed with the SEC;

The absence of undisclosed material liabilities;

Compliance with laws;

The absence of violations, breaches or defaults under charter documents, laws, orders or material agreements resulting from the execution and delivery of the merger agreement and compliance therewith;

Consents and approvals necessary for consummation of the merger;

The absence of material agreements, judgments, injunctions, orders or decrees which could restrict any current or future business activities;

The identification of, and certain matters relating to, material agreements;

The absence of pending litigation and court orders or judgments;

Certain tax matters;

The absence of certain changes or events since December 31, 2001;

Certain employee benefit and labor matters;

Certain matters relating to owned or used intellectual property;

The absence of liens and title to property;

Certain matters relating to environmental liabilities;

Arrangements with investment bankers or brokers;

The receipt of a fairness opinion from the respective parties' financial advisors, dated the date of the merger agreement; and

Approvals by the boards of directors.

In addition, Veeco and Venice Acquisition Corp. made an additional representation and warranty regarding:

The amendment to the Veeco Rights Agreement.

The representations and warranties of Veeco and Venice Acquisition Corp. and FEI set forth in the merger agreement are subject to exceptions set forth in a disclosure schedule, dated the date of the merger agreement, and to matters otherwise disclosed in the documents filed by Veeco and FEI with the SEC.

The representations and warranties of the parties under the merger agreement or in certificates delivered pursuant to the merger agreement expire upon completion of the merger.

Certain Covenants

Interim Operations. Veeco and FEI have agreed that, prior to the earlier to occur of termination of the merger agreement pursuant to its terms or the closing of the merger, they will conduct their businesses only in the ordinary course in substantially the same manner as conducted before the signing of the merger agreement and in compliance with all applicable laws. Veeco and FEI have also agreed during such time to attempt to preserve unimpaired at the closing of the merger their ongoing businesses by using their reasonable commercial efforts to:

Preserve intact their present lines of business;

Keep available the services of their officers and key employees; and

Maintain their rights and franchises and preserve their relationships with material customers, suppliers and others with whom they have business dealings.

Veeco and FEI have agreed, prior to the closing of the merger, to confer with each other concerning material operational matters and to report to each other periodically concerning the status of their respective business, operations and finances. Further, subject to certain scheduled exceptions, Veeco and FEI (which shall include their subsidiaries) have specifically agreed not to do, cause or permit any of the following to occur, unless disclosed in the disclosure schedules to the merger agreement, without the prior written consent of the other (which consent is not to be unreasonably withheld or delayed):

Cause or permit amendments to their certificate or articles of incorporation or bylaws;

Declare or pay dividends or make other distributions on their capital stock, or split, combine or reclassify any of their capital stock or issue any securities in exchange or substitution for shares of their capital stock;

Repurchase or otherwise acquire any shares of their capital stock, except from former employees, directors and consultants in accordance with agreements in effect on the date of the merger agreement relating to repurchase of shares on termination of service;

Sell or issue any shares of capital stock or any securities convertible into or exchangeable or exercisable for shares of its capital stock, other than under option plans, upon exercise or conversion of options, convertible debt or other convertible securities of either Veeco or FEI or under either Veeco's or FEI's employee stock purchase plans;

Take or fail to take any action that would reasonably be expected to cause the merger to fail to qualify as a reorganization within the meaning of Section 368(a) of the Internal Revenue Code;

Acquire or agree to acquire by merger or consolidation, or by purchasing a substantial portion of the assets of, or by any other manner, any business or any corporation, partnership, association or other business organization or division thereof or otherwise acquire or agree to acquire any assets which could be material to the acquiror (excluding the acquisition of assets in the ordinary course, which assets do not constitute a business unit, division or all or substantially all of the assets of the transferor);

Other than in the ordinary course of business (1) enter into any new material line of business or (2) incur or commit to any capital expenditures or any obligations or liabilities in connection therewith;

Issue, deliver, sell, pledge, dispose of, or otherwise encumber, or authorize or propose the issuance, delivery, sale, pledge, disposition or encumbrance of, any of their respective shares of capital stock of any class, any debt securities or any securities convertible into or exercisable for, or any rights, warrants, calls, or options to acquire, any such shares or debt securities, or enter into any commitment, arrangement, undertaking or agreement with respect to any of the foregoing, other than or in connection with (1) the issuance of shares upon the exercise of options or other convertible securities in accordance with their present terms or pursuant to options or other stock-based awards granted pursuant to clause (2) below, (2) the granting of options or other stock-based awards, under benefit plans outstanding on the date of the merger agreement in the ordinary course of business and in individual and aggregate amounts consistent with past practice or (3) issuances, sales or deliveries by a wholly-owned subsidiary to its parent;

Adopt a plan of complete or partial liquidation, dissolution, consolidation, restructuring, recapitalization or other reorganization;

Except as required by generally accepted accounting principles, make any change in accounting methods, principles or practices;

Enter into any material joint venture, partnership or similar arrangement;

Sell, lease or otherwise dispose of, or agree to sell, lease or otherwise dispose of, any of its assets (including capital stock of subsidiaries) other than in the ordinary course of business consistent with past practice;

(1) Make any loans, advances or capital contributions to, or investments in, any other person, other than (A) loans or investments in a subsidiary or (B) in the ordinary course of business consistent with past practice which are not, individually or in the aggregate, material (provided that none of such transactions referred to in this clause (B) presents a material risk of making it more difficult to obtain any consent required in connection with the merger under applicable law) or (2) except in the ordinary course consistent with past practice, incur any indebtedness for borrowed money or guarantee any such indebtedness of another person, issue or sell any debt securities or warrants or other rights to acquire any debt securities, guarantee any debt securities of another person, enter into any "keep well" or other agreement to maintain any financial statement condition of another person (other than a wholly-owned subsidiary) or enter into any arrangement having the economic effect of any of the foregoing;

Except as required by applicable law or by the terms of any collective bargaining agreement or other agreement in effect as of the date of the merger agreement, increase the amount of compensation of, or pay any severance to (other than in the ordinary course consistent with past practice), any director, officer or (other than in the ordinary course consistent with past practice) key employee, or make any increase in or commitment to increase or accelerate the payment of any employee benefits, grant any additional stock options, adopt or amend or make any commitment to adopt or amend any benefit plan or fund or make any contribution to any benefit plan or any related trust or other funding vehicles, other than regularly scheduled contributions to trust funding qualified plans; and shall not accelerate the vesting of, or the lapsing of restrictions with respect to any stock option, and any option granted or committed to be granted after the date of the merger agreement shall not accelerate as a result of approval or consummation of any transaction contemplated by the merger agreement;

Transfer or license to any person or otherwise extend, amend or modify any rights to any intellectual property owned by them or their subsidiaries, other than in the ordinary course of business or pursuant to any contracts currently in place (that have been disclosed in writing to the other party hereto prior to the date of the merger agreement);

Other than as expressly permitted under the merger agreement, take any action for the purpose of preventing, delaying or impeding the consummation of the merger or the other transactions contemplated by the merger agreement; or

Take, or agree to take, any of the actions described above.

Access. Until the closing of the merger, upon reasonable notice, Veeco and FEI have agreed to provide each other with reasonable access to their respective properties, books, records, tax returns, contracts, information, documents and personnel upon reasonable request during normal business hours.

Comfort Letters. Veeco and FEI have also agreed to use all reasonable efforts to cause Ernst & Young LLP, independent public accountants to Veeco, and Deloitte & Touche LLP, independent public accountants to FEI, to deliver customary "comfort letters" to Veeco and FEI, respectively, in connection with the filing with the SEC of the registration statement of which this joint proxy statement/prospectus forms a part.

Headquarters. Veeco and FEI have agreed that the headquarters of Veeco FEI will be located at the current headquarters of Veeco in Woodbury, New York.

Board of Directors; Officers. Veeco has agreed that, if the merger is completed, it will take all actions necessary to ensure that the Veeco FEI board of directors shall consist of thirteen members,

seven of whom shall be nominated by Veeco from the current members of its board of directors, five of whom shall be nominated by FEI from the current members of its board of directors and one of whom shall be nominated by PBE in accordance with the terms of an investor agreement among Veeco, FEI and PBE. Veeco has also agreed that if the merger is completed, it will cause, as of the closing of the merger, Vahé A. Sarkissian to be appointed the Chairman and Chief Strategy Officer of Veeco FEI. Edward H. Braun will remain Veeco FEI's President and Chief Executive Officer and John F. Rein, Jr. will remain Veeco FEI's Vice President, Chief Financial Officer, Treasurer and Secretary.

Employment Agreements. Veeco has agreed that, prior to the closing of the merger, Veeco shall use commercially reasonable efforts to enter into employment agreements, to be effective as of the closing of the merger, with senior officers of Veeco and FEI as mutually agreed upon by Veeco and FEI, which employment agreements shall have terms acceptable to the Veeco and FEI board of directors. As of the date of the merger agreement, Veeco and each of Edward H. Braun and Vahé A. Sarkissian executed employment agreements which will become effective at the closing of the merger.

Employee Stock Purchase Plan. Veeco has agreed that at the closing of the merger, the FEI Employee Stock Purchase Plan, or the FEI ESPP, and each outstanding purchase right with respect to all open offering periods under the FEI ESPP will be assumed by Veeco FEI. Each FEI purchase right shall continue to have, and be subject to, the terms and conditions set forth in the FEI ESPP and the documents governing the FEI purchase right, except that the purchase price of Veeco FEI common stock under each FEI purchase right shall be the lower of (1) the quotient determined by dividing eighty-five percent (85%) of the fair market value of a share of FEI common stock on the offering date of each assumed offering period by 1.355, the merger exchange ratio, or (2) eighty-five percent (85%) of the fair market value of Veeco FEI common stock on the applicable purchase date of each assumed offering period occurring after the closing of the merger. Subject to the other terms of the merger agreement, the FEI purchase rights shall be exercised at such times following the closing of the merger as set forth in the FEI ESPP, and each participant shall, accordingly, be issued Veeco FEI common stock at such times. Veeco also agreed that the employees of FEI who become employees of Veeco FEI or any subsidiary of Veeco FEI may participate in the employee stock purchase plan sponsored by Veeco, subject to the terms and conditions of such plan.

FEI has agreed that prior to the closing of the merger, it will take any and all action that may be necessary under the FEI ESPP to ensure that:

All offering periods under the FEI ESPP that are open at the closing of the merger and are assumed by Veeco under the merger agreement, shall terminate, and the applicable purchase date for all FEI purchase rights shall occur, on or before December 31, 2002;

The FEI ESPP shall terminate on or before December 31, 2002; and

The offering period scheduled to begin on or about September 1, 2002 shall be the last offering period to commence under the FEI ESPP, and such offering shall terminate, and the applicable purchase date shall occur, on December 31, 2002.

Veeco agreed to implement or continue, as applicable, the last offering period and all offering periods under the FEI ESPP that are open at the closing of the merger and are assumed by Veeco until the earlier of:

December 31, 2002; or

The date that the applicable offering period would have otherwise terminated, without additional corporate action, pursuant to the FEI ESPP.

Terms of Employment; Employee Benefits. Veeco has agreed that until the first anniversary of the closing of the merger, Veeco FEI shall (1) provide the employees of FEI who remain employed with Veeco FEI or any subsidiary of Veeco FEI in the U.S. after the closing of the merger with terms and conditions of employment that are substantially comparable in the aggregate to those provided to

similarly situated employees of Veeco FEI or (2) continue to provide such employees with terms and conditions of employment that are substantially comparable in the aggregate to those provided by FEI immediately prior to the closing of the merger.

Except to the extent necessary to avoid duplication of benefits, and, to the extent permitted under applicable law, Veeco has also agreed to provide these continuing U.S. employees with full credit, for purposes of eligibility and vesting under any employee benefit plans or arrangements maintained by Veeco FEI or any subsidiary of Veeco FEI in which such employees are eligible to participate, for such employees' service with FEI to the same extent recognized by FEI immediately prior to the closing of the merger. Veeco FEI shall cause any and all pre-existing condition limitations, eligibility waiting periods and evidence of insurability requirements under any welfare plan to be waived with respect to these continuing U.S. employees and their eligible dependents and shall provide them with credit for any co-payments, deductibles and offsets (or similar payments) made prior to the closing of the merger for purposes of satisfying any applicable deductible, out-of-pocket, or similar requirement under any employee benefit plans or arrangements maintained by Veeco FEI or any subsidiary of Veeco FEI in which such employees are eligible to participate on and after the closing of the merger. Nothing contained in the merger agreement shall be construed to limit the ability of Veeco or a subsidiary of Veeco, following the closing of the merger , to terminate the employment of any employee or to amend or terminate any Veeco or FEI benefit plan in accordance with its terms.

Veeco has also agreed to provide employees of FEI who remain employed with Veeco FEI, or any subsidiary of Veeco FEI after the closing of the merger, with terms and conditions of employment that are substantially similar to those provided by FEI or any subsidiary of FEI immediately prior to the closing of the merger as and to the extent required by applicable law.

Disclosure. Veeco and FEI have agreed to consult with each other before issuing any press release or otherwise making any public statement with respect to the merger or the other transactions contemplated by the merger agreement.

Registration Statement on Form S-3. Veeco has agreed that it shall file with the SEC, no later than the closing of the merger, a registration statement on Form S-3, relating to the resale of the FEI notes and the common stock issuable upon conversion of the FEI notes.

Listing of Shares. Veeco has agreed to cause the shares of Veeco common stock being issued, and those being reserved for issuance, in the merger to be approved for listing (subject to notice of issuance) on The Nasdaq Stock Market.

Antitrust Matters. As contemplated by the merger agreement, Veeco and FEI have filed the required notifications and materials under the HSR Act. Under the merger agreement, FEI and Veeco agreed to respond as promptly as practicable to:

- Any inquiries or requests received from the Federal Trade Commission or the Department of Justice for additional information or documentation; and
- Any inquiries or requests received from any state attorney general, foreign antitrust authority or other governmental authority in connection with antitrust or related matters.

Neither Veeco nor FEI nor any of their respective subsidiaries shall be required to hold separate or to divest or agree to divest any of their respective businesses or assets, or to take or agree to take any action or agree to any limitation that would be reasonably likely to have a material adverse effect on Veeco FEI (assuming the merger has been consummated) or would be reasonably likely to materially adversely impact the benefits expected to be derived by Veeco and FEI from consummation of the merger, and neither Veeco nor FEI shall be required to agree to or effect any divestiture, hold separate any business or take any other action that is not conditional on the consummation of the merger.

Other Covenants. The merger agreement contains additional covenants of Veeco, Venice Acquisition Corp. and FEI customary for transactions of this type, including covenants relating to:

- The parties' obligation to use their reasonable best efforts to obtain consents to the consummation of the merger;
- The parties' obligation to continue to file their tax returns and pay their taxes and debts as they become due;

The obligation of the parties to give notice in the event they become aware of breaches, or circumstances that could lead to breaches, of representations and warranties or covenants;

Repayment of indebtedness owed to FEI and its subsidiaries by their affiliates;

Compliance by Veeco with "blue sky" laws in connection with the merger;

Cooperation in the preparation and filing of all returns, questionnaires, applications or other documents regarding any real property transfer or gains, sales, use, transfer, value added, stock transfer or stamp taxes, any transfer, recording, registration or other fees or any similar taxes, which become payable in connection with the transactions contemplated by the merger agreement; and

The adoption of resolutions by each of the FEI board of directors and the Veeco board of directors that exempt for purposes of Section 16 of the Exchange Act the transactions contemplated by the merger agreement with respect to certain directors and executive officers of FEI.

Further, the merger agreement contains covenants relating to matters discussed elsewhere in this joint proxy statement/prospectus, including:

Veeco's obligations with respect to assumption of FEI stock options in connection with and following the completion of the merger; and

Veeco's obligations with respect to the continuation of existing indemnification arrangements relating to FEI's officers and directors as of the date of the merger agreement, and Veeco's obligations with respect to the continuation of a directors' and officers' liability insurance policy for such persons.

No Solicitation

Veeco. Until the merger is completed or the merger agreement is terminated, Veeco has agreed not to take any of the following actions directly or indirectly and to use reasonable best efforts to cause its subsidiaries and its and their representatives, agents and employees not to directly or indirectly:

Solicit, initiate, encourage, induce or facilitate the making, submission or announcement of a Veeco Acquisition Proposal (as defined below);

Furnish information regarding Veeco or its subsidiaries to any person or entity in connection with or in response to a Veeco Acquisition Proposal or an inquiry or indication of interest that could lead to a Veeco Acquisition Proposal;

Engage in discussions or negotiations with any person or entity with respect to a Veeco Acquisition Proposal;

Approve, endorse or recommend any Veeco Acquisition Proposal; or

Enter into any letter of intent or similar document or any contract contemplating or otherwise relating to any Veeco Acquisition Proposal.

A "Veeco Acquisition Proposal" means an offer, proposal, inquiry or indication of interest contemplating or otherwise relating to a Veeco Acquisition Transaction, and a "Veeco Acquisition Transaction" is any of the following:

Any merger, reorganization, consolidation, share exchange, recapitalization, business combination, issuance of securities, purchase or acquisition of securities, tender offer, exchange offer or other similar transaction in which (1) Veeco or any material Veeco subsidiary is a constituent corporation, (2) a person, entity or "group" (as defined and described under Section 13(d) of the Exchange Act) of persons or entities directly or indirectly acquires beneficial ownership of securities representing more than 15% of the outstanding securities of any class of voting securities of Veeco or a material Veeco subsidiary, or (3) Veeco or any material Veeco subsidiary issues securities representing more than 15% of the outstanding

securities of any class of voting securities of Veeco or such material Veeco subsidiary;

Any sale, lease, exchange, transfer, license, acquisition or disposition of any business or businesses or assets (other than in the ordinary course of business) that constitute or account for 15% or more of the consolidated net revenues, net income or assets (measured by fair market value) of Veeco and the Veeco subsidiaries, on a consolidated basis; or

Any liquidation or dissolution of Veeco.

However, before the approval of the issuance of the shares of Veeco common stock in the merger by Veeco's stockholders, Veeco can engage in discussions and take any other actions that may be reasonably required for the purpose of becoming informed with respect to, a *bona fide,* unsolicited, written Veeco Acquisition Proposal that is submitted to Veeco (and not withdrawn) if Veeco's board of directors reasonably determines in good faith after due consideration that such Veeco Acquisition Proposal would reasonably be likely to result in a Superior Veeco Proposal (as defined below) if:

Neither Veeco nor any representative of Veeco has violated the nonsolicitation and related obligations under the merger agreement;

Veeco's board of directors concludes in good faith that failure to take such action would be reasonably likely to result in a breach of its fiduciary obligations to Veeco's stockholders under applicable law, after consultation with its outside legal counsel; and

Before any such discussions or other action, Veeco receives from the person or entity making the Veeco Acquisition Proposal an executed confidentiality arrangement containing customary limitations on the use and disclosure of all nonpublic written and oral information furnished to such person or entity by or on behalf of Veeco.

A "Superior Veeco Proposal" means an unsolicited, *bona fide*, written offer by a third party with respect to a Veeco Acquisition Transaction (as defined above, except that all references to "15%" therein shall be deemed to read 50%) on terms that the board of directors of Veeco determines make it more favorable to the stockholders of Veeco than the terms of the merger; *provided*, that, any such offer will not be a Superior Veeco Proposal if any financing required to consummate the transaction contemplated by such offer is not committed and is not reasonably capable of being obtained by such third party. The board of directors must make this determination in good faith after taking into account, among other relevant considerations, consultation with an independent financial advisor of nationally recognized reputation.

Veeco has agreed to promptly advise FEI of any Veeco Acquisition Proposal, including the identity of the person or entity making or submitting such Veeco Acquisition Proposal and the terms thereof, that is made or submitted by any person or entity after the date of the merger agreement. Veeco has also agreed to keep FEI reasonably informed as to the status of any such Veeco Acquisition Proposal.

FEI. Until the merger is completed or the merger agreement is terminated, FEI has agreed not to take any of the following actions directly or indirectly and to use reasonable best efforts to cause its subsidiaries and their representatives, agents and employees not to directly or indirectly:

Solicit, initiate, encourage, induce or facilitate the making, submission or announcement of an FEI Acquisition Proposal (as defined below);

Furnish information regarding FEI or its subsidiaries to any person or entity in connection with or in response to an FEI Acquisition Proposal or an inquiry or indication of interest that could lead to an FEI Acquisition Proposal;

Engage in discussions or negotiations with any person or entity with respect to an FEI Acquisition Proposal;

Approve, endorse or recommend any FEI Acquisition Proposal; or

Enter into any letter of intent or similar document or any contract contemplating or otherwise relating to any FEI Acquisition Proposal.

An "FEI Acquisition Proposal" means an offer, proposal, inquiry or indication of interest contemplating or otherwise relating to an FEI Acquisition Transaction, and an "FEI Acquisition Transaction" is any of the following:

Any merger, reorganization, consolidation, share exchange, recapitalization, business combination, issuance of securities, purchase or acquisition of securities, tender offer, exchange offer or other similar transaction in which (1) FEI or any material FEI subsidiary is a constituent corporation, (2) a person, entity or "group" (as defined and described under Section 13(d) of the Exchange Act) of persons or entities directly or indirectly acquires beneficial ownership of securities representing more than 15% of the outstanding securities of any class of voting securities of FEI or a material FEI subsidiary, or (3) FEI or any material FEI subsidiary issues securities representing more than 15% of the outstanding securities of any class of voting securities of FEI or such material FEI subsidiary;

Any sale, lease, exchange, transfer, license, acquisition or disposition of any business or businesses or assets (other than in the ordinary course of business) that constitute or account for 15% or more of the consolidated net revenues, net income or assets (measured by fair market value) of FEI and the other FEI subsidiaries, on a consolidated basis; or

Any liquidation or dissolution of FEI.

However, before the approval of the merger by FEI's shareholders, FEI can engage in discussions and take any other actions that may be reasonably required for the purpose of becoming informed with respect to a *bona fide,* unsolicited, written FEI Acquisition Proposal that is submitted to FEI (and not withdrawn) if FEI's board of directors reasonably determines in good faith after due consideration that such FEI Acquisition Proposal would reasonably be likely to result in a Superior FEI Proposal (as defined below) if:

Neither FEI nor any representative of FEI has violated the nonsolicitation and related obligations under the merger agreement;

FEI's board of directors concludes in good faith that failure to take such action would be reasonably likely to result in a breach of its fiduciary obligations to FEI's shareholders under applicable law, after consultation with its outside legal counsel; and

Before any such discussions or other action, FEI receives from the person or entity making the FEI Acquisition Proposal an executed confidentiality arrangement containing customary limitations on the use and disclosure of all nonpublic written and oral information furnished to such person or entity by or on behalf of FEI.

A "Superior FEI Proposal" means an unsolicited, *bona fide*, written offer made by a third party with respect to an FEI Acquisition Transaction (as defined above, except that all references to "15%" therein shall be deemed to read "50%") on terms that FEI's board of directors determines in good faith to be more favorable to FEI's shareholders than the terms of the merger after having taken into account, among other relevant considerations, consultation with an independent financial advisor of nationally recognized reputation; *provided,* that, any such offer will not be a Superior FEI Proposal if any financing required to consummate the transaction contemplated by such offer is not committed and is not reasonably capable of being obtained by such third party.

FEI has agreed to promptly advise Veeco of any FEI Acquisition Proposal, including the identity of the person or entity making or submitting such FEI Acquisition Proposal and the terms thereof, that is made or submitted by any person or entity after the date of the merger agreement. FEI has also agreed to keep Veeco reasonably informed as to the status of any such FEI Acquisition Proposal.

Board Recommendations

Calling Veeco Special Meeting; Recommendation of Veeco Board. Under the merger agreement, Veeco agreed to call the Veeco special meeting as promptly as practicable after the registration statement of which this joint proxy statement/prospectus forms a part is declared effective under the Securities Act by the SEC on a date mutually agreed upon by FEI and Veeco (but on a date no more than two business days after the FEI special meeting).

Under the merger agreement, Veeco has agreed that this joint proxy statement/prospectus will include a statement to the effect that Veeco's board of directors recommends that Veeco's stockholders vote to approve the issuance of Veeco common stock in connection with the merger and vote to approve the amendment to Veeco's Amended and Restated Certificate of Incorporation to increase the authorized shares of Veeco's common stock at the Veeco special meeting. Further, Veeco has agreed that such recommendation to Veeco's stockholders by Veeco's board of directors will not be withdrawn or modified in a manner adverse to FEI unless, at any time prior to the approval of the issuance of Veeco common stock in the merger and the approval of the amendment to Veeco's Amended and Restated Certificate of Incorporation to increase the authorized shares of Veeco common stock by Veeco's stockholders the following occurs:

A Veeco Acquisition Proposal is made and is not withdrawn;

Veeco promptly provides FEI prior written notice of any meeting of Veeco's board of directors at which Veeco's board of directors will consider and determine whether such offer is a Superior Veeco Proposal;

Veeco's board of directors determines in good faith that such offer constitutes a Superior Veeco Proposal, after consultation with an independent financial advisor of nationally recognized reputation;

Veeco's board of directors determines in good faith, after consultation with Veeco's outside legal counsel that, in light of such Superior Veeco Proposal, the failure to withdraw or modify the Veeco board of directors' recommendation would be reasonably likely to result in a breach of the fiduciary obligations of Veeco's board of directors to Veeco's stockholders under applicable law; and

Neither Veeco nor any of its representatives has materially violated its nonsolicitation and related obligations under the merger agreement.

Under the merger agreement, even if Veeco's board of directors withdraws or modifies its recommendation of the merger in the manner discussed above, Veeco will remain obligated to call and hold the Veeco special meeting for Veeco's stockholders to consider and vote upon the issuance of Veeco common stock in connection with the merger, the approval of a proposal to amend Veeco's Amended and Restated Certificate of Incorporation to increase the number of shares of authorized Veeco common stock and the approval of a proposal to change the name of Veeco Instruments Inc. to Veeco FEI Inc.

Calling FEI Special Meeting; Recommendation of FEI Board. Under the merger agreement, FEI agreed to call the FEI special meeting as promptly as practicable after the registration statement of which this joint proxy statement/prospectus forms a part is declared effective under the Securities Act by the SEC on a date mutually agreed upon by Veeco and FEI, but in no event later than 45 days after the date such registration statement is declared effective.

Under the merger agreement, FEI has agreed that this joint proxy statement/prospectus will include a statement to the effect that FEI's board of directors recommends that FEI's shareholders vote to approve the merger at the FEI special meeting. Further, FEI has agreed that such recommendation to FEI's shareholders by FEI's board of directors will not be withdrawn or modified in a manner adverse to Veeco unless, at any time prior to the approval of the merger by FEI's shareholders, the following occurs:

An FEI Acquisition Proposal is made and is not withdrawn;

FEI promptly provides Veeco prior written notice of any meeting of FEI's board of directors at which FEI's board of directors will consider and determine whether such offer is a Superior FEI Proposal;

FEI's board of directors determines in good faith that such offer constitutes a Superior FEI Proposal, after consultation with an independent financial advisor of nationally recognized reputation;

FEI's board of directors determines in good faith, after consultation with FEI's outside legal counsel that, in light of such Superior FEI Proposal, the failure to withdraw or modify the FEI board of directors' recommendation would be reasonably likely to result in a breach of the fiduciary obligations of FEI's board of directors to FEI's shareholders under applicable law; and

Neither FEI nor any of its representatives has materially violated its nonsolicitation and related obligations under the merger agreement.

Under the merger agreement, even if FEI's board of directors withdraws or modifies its recommendation of the merger in the manner discussed above, FEI will remain obligated to call and hold the FEI special meeting for FEI's shareholders to consider and vote upon the merger.

Conditions to the Merger

Conditions to the Obligations of Each Party. The obligations of FEI, Veeco and Venice Acquisition Corp. to complete the merger are subject to the satisfaction of the following conditions:

The registration statement of which this joint proxy statement/prospectus forms a part shall have been declared effective under the Securities Act and not be subject to any stop order or any proceeding seeking a stop order;

The merger shall have been approved by a majority vote of the holders of the shares of FEI common stock entitled to vote at the FEI special meeting in which a quorum is present;

The issuance of Veeco common stock in the merger and the amendment to Veeco's Amended and Restated Certificate of Incorporation to increase the authorized shares of Veeco's common

stock shall have been approved by the vote of the holders of a majority of the outstanding shares of Veeco common stock entitled to vote at the Veeco special meeting in which a quorum is present;

No suit, action or other legal proceeding by any governmental authority which seeks to restrain or prohibit the consummation of the transactions contemplated by the merger agreement shall be pending, and no injunction or final judgment which restrains or prohibits the consummation of the transactions contemplated by the merger agreement shall have been entered on the closing date of the merger before any court or governmental authority;

The shares of Veeco common stock to be issued in the merger shall have been approved for listing (subject to notice of issuance) on The Nasdaq National Market;

The applicable waiting period under the HSR Act relating to the merger shall have expired or been terminated and any similar waiting period under or consent required by any applicable foreign antitrust law or regulation shall have been obtained, other than where the failure for such foreign waiting period to have expired or been terminated or foreign consent to have been obtained would not have a Material Adverse Effect, as defined below, on Veeco following the merger; and

No governmental authority shall have enacted, issued, promulgated, enforced or entered any statute, rule, regulation or executive order (whether temporary, preliminary or permanent), which is in effect and which has the effect of making the merger illegal or otherwise prohibiting consummation of the merger.

Conditions to the Obligations of Veeco and Venice Acquisition Corp. The obligations of Veeco and Venice Acquisition Corp. to complete the merger are subject to the satisfaction or waiver of the following further conditions:

FEI shall have performed and complied in all material respects with its covenants, agreements and conditions required by the merger agreement to be performed and complied with by FEI on or prior to the closing date of the merger;

The representations and warranties of FEI in the merger agreement shall be true and correct as of the date of the merger agreement and as of the closing date of the merger as if made on and as of that date without regard to: (1) any materiality qualifications in any representation or warranty and (2) updates to FEI's disclosure schedules since the date of the merger agreement, except where the failure to be so true and correct would not, in the aggregate, reasonably be expected to have a Material Adverse Effect on FEI;

Veeco shall have received a legal opinion from Kaye Scholer LLP that the merger will qualify as a reorganization within the meaning of Section 368(a) of the Internal Revenue Code;

Veeco shall have received a certificate, dated the closing date of the merger, executed on behalf of FEI by its chief executive officer, confirming that certain conditions set forth in the merger agreement have been duly satisfied; and

There shall have been no Material Adverse Effect with respect to FEI.

As used in the merger agreement, a "Material Adverse Effect" means, with respect to Veeco or FEI (as applicable), a material adverse effect on (1) the business, assets, financial condition, operations or results of operations of such company and its subsidiaries, taken as a whole or (2) the ability of such company to consummate the transactions contemplated by the merger agreement prior to December 31, 2002; *provided, however*, that, for purposes of clause (1) above, in no event shall any of the following, alone or in combination with one another, be deemed to constitute, nor shall any of the

following be taken into account in determining whether there has been or will be, a Material Adverse Effect:

Any effect resulting from compliance with the express terms and conditions of the merger agreement;

With limited exceptions, any effect resulting from the announcement or pendency of the merger;

Any changes in such company's stock price or trading volume (but excluding the reasons for such changes in the stock price or trading volume);

Any failure by such company to meet published revenue or earnings projections (but excluding the reasons for failing to meet such projections);

Any effect that results from changes affecting any of the industries in which such company operates generally or the United States economy generally (including prevailing interest rate and stock market levels);

Any effect that results primarily from changes affecting general worldwide economic or capital market conditions (which changes in each case do not disproportionately affect such company in any material respect); or

Stockholder class action litigation arising from allegations of a breach of fiduciary duty relating to the merger agreement.

Conditions to the Obligations of FEI. The obligation of FEI to complete the merger is subject to the satisfaction or waiver of the following further conditions:

Veeco and Venice Acquisition Corp. shall have performed and complied in all material respects with their covenants, agreements and conditions required by the merger agreement to be performed and complied by them on or prior to the

closing date of the merger;

The representations and warranties of Veeco and Venice Acquisition Corp. in the merger agreement shall be true and correct as of the date of the merger agreement and as of the closing date of the merger as if made on and as of that date without regard to (1) any materiality qualifications in any representation or warranty and (2) updates to Veeco's disclosure schedules since the date of the merger agreement, except where the failure to be so true and correct would not, in the aggregate, reasonably be expected to have a Material Adverse Effect on Veeco;

FEI shall have received a legal opinion from Wilson Sonsini Goodrich & Rosati, Professional Corporation, that the merger will qualify as a reorganization within the meaning of Section 368(a) of the Internal Revenue Code;

FEI shall have received a certificate, dated the closing date of the merger, executed on behalf of Veeco by its chief executive officer, confirming that certain conditions set forth in the merger agreement have been duly satisfied; and

There shall have been no Material Adverse Effect with respect to Veeco.

Termination of the Merger Agreement

Termination by Veeco or FEI. Either Veeco or FEI may terminate the merger agreement prior to the closing of the merger (whether before or after approval of the merger by FEI's shareholders and whether before or after the approval of the issuance of Veeco common stock in the merger by Veeco's stockholders) as follows:

By mutual written consent of Veeco and FEI;

If the merger has not been completed by December 31, 2002 (although in certain circumstances that date can be extended until January 30, 2003); *provided*, that, a party cannot terminate the merger agreement for such reason if the failure for the merger to be completed is attributable to a failure of the party seeking to terminate the merger agreement to perform a material obligation required to be performed by that party at or before the closing of the merger;

If a court or other governmental authority issues a final and nonappealable order, decree or ruling, or takes other action that permanently restrains, enjoins or otherwise prohibits the merger;

If FEI's shareholders do not approve the merger at the FEI special meeting; *provided*, that, a party cannot terminate the merger agreement for such reason if the failure to obtain the approval of FEI's shareholders is attributable to the failure of that party to perform any material obligation required to be performed by it at or before the closing of the merger; or

If Veeco's stockholders do not approve the issuance of Veeco common stock in the merger or the amendment to Veeco's Amended and Restated Certificate of Incorporation to increase the authorized shares of Veeco's common stock at the Veeco special meeting; *provided*, that, a party cannot terminate the merger agreement for such reason if the failure to obtain the approval of Veeco's stockholders is attributable to the failure of that party to perform any material obligation required to be performed by it at or before the closing of the merger.

Termination by Veeco. Veeco may terminate the merger agreement prior to the closing of the merger as follows (whether before or after approval of the merger by FEI's shareholders and whether before or after the approval of the issuance of Veeco common stock in the merger by Veeco stockholders):

If at any time prior to the approval of the merger by FEI's shareholders an FEI Triggering Event (as defined below) occurs;

If any of FEI's covenants and agreements contained in the merger agreement are breached (and such breach is not cured within thirty days after notice thereof) and the effect of such breach is that FEI shall not have performed and complied in all material respects with its covenants, agreements and conditions required by the merger agreement to be performed and complied with by FEI on or prior to the closing of the merger; or

If FEI's representations and warranties are inaccurate as of the date of the merger agreement or become inaccurate as of a later date (as if made on such later date), with the effect that Veeco's closing condition described above relating to the accuracy of FEI's representations and warranties would not be satisfied; *provided,* that, if such breach is capable of cure, it has not been cured within thirty days after notice thereof.

An "FEI Triggering Event" will be deemed to have occurred if:

The board of directors of FEI fails to recommend that FEI's shareholders vote to approve the merger or withdraws or modifies its recommendation in a manner adverse to Veeco;

FEI fails to include in this joint proxy statement/prospectus a statement that the board of directors of FEI recommends that FEI's shareholders approve the merger;

The board of directors of FEI approves, endorses or recommends any FEI Acquisition Transaction;

FEI enters into a letter of intent or similar document or any contract providing for an FEI Acquisition Transaction;

FEI fails to hold the FEI special meeting as promptly as practicable, and in any event within 45 days after the registration statement of which this joint proxy statement/prospectus forms a part is declared effective, unless a stop order is issued with respect to that registration statement or an injunction shall have been issued by a court or other governmental authority to restrain or prohibit consummation of the merger;

FEI or any of its subsidiaries violates in a material manner its nonsolicitation covenant set forth in the merger agreement;

FEI shall have failed to prepare and mail to its shareholders this joint proxy statement/prospectus;

A tender or exchange offer relating to FEI's securities shall have been commenced by a person or entity unaffiliated with Veeco, and FEI shall not have sent to its shareholders, pursuant to Rule 14e-2 promulgated under the Exchange Act, within ten business days after such tender or exchange offer is first published, sent, given or otherwise commenced, a statement disclosing that the FEI board of directors recommends rejection of such tender or exchange offer;

The FEI board of directors shall have granted any approval or taken any other step to exempt any transaction (other than the merger) from the requirements and provisions of Section 835 of the Oregon Business Corporation Act or other state anti-takeover statutes or regulations; or

FEI's board of directors shall have amended or resolved to amend any FEI preferred stock rights agreement, (commonly known as a "poison pill"), if any then in effect, so as to render it inapplicable to any FEI Acquisition Transaction (other than the merger).

Termination by FEI. FEI may terminate the merger agreement prior to the closing of the merger as follows (whether before or after approval of the merger by FEI's shareholders and whether before or after the approval of the issuance of Veeco common stock in the merger by Veeco stockholders):

If at any time prior to the approval of the issuance of the Veeco common stock in the merger and the approval of the amendment to Veeco's Amended and Restated Certificate of Incorporation increasing the authorized shares of Veeco's common stock by Veeco's stockholders a Veeco Triggering Event (as defined below) occurs;

If any of Veeco's covenants and agreements contained in the merger agreement are breached (and such breach is not cured within thirty days after notice thereof) and the effect of such breach is that Veeco shall not have performed and complied in all material respects with its covenants, agreements and conditions required by the merger agreement to be performed and complied with by Veeco on or prior to the closing date of the merger; or

If Veeco's representations and warranties are inaccurate as of the date of the merger agreement or become inaccurate as of a later date (as if made on such later date), with the effect that FEI's closing condition described above relating to the accuracy of Veeco's representations and warranties would not be satisfied; *provided,* that, if such breach is capable of cure, it has not been cured within thirty days after notice thereof.

A "Veeco Triggering Event" will be deemed to have occurred if:

The board of directors of Veeco fails to recommend that Veeco's stockholders vote to approve the issuance of Veeco common stock in the merger or withdraws or modifies its recommendation to approve such share issuance or the amendment to Veeco's Amended and Restated Certificate of Incorporation to increase the authorized shares of Veeco's common stock in a manner adverse to FEI;

Veeco fails to include in this joint proxy statement/prospectus a statement that the board of directors of Veeco recommends that Veeco's stockholders approve the issuance of Veeco

common stock in the merger and the amendment to Veeco's Amended and Restated Certificate of Incorporation increasing the authorized shares of Veeco's common stock;

The board of directors of Veeco approves, endorses or recommends any Veeco Acquisition Transaction;

Veeco enters into a letter of intent or similar document or any contract providing for a Veeco Acquisition Transaction;

Veeco fails to hold the Veeco special meeting as promptly as practicable after the registration statement of which this joint proxy statement/prospectus forms a part is declared effective, and in any event within 2 business days after FEI's special shareholders meeting;

Veeco or any of its subsidiaries violates in a material manner its nonsolicitation covenant set forth in the merger agreement;

Veeco shall have failed to prepare and mail to its stockholders this joint proxy statement/prospectus;

A tender or exchange offer relating to Veeco's securities shall have been commenced by a person or entity unaffiliated with FEI, and Veeco shall not have sent to its stockholders, pursuant to Rule 14e-2 promulgated under the Exchange Act, within ten business days after such tender or exchange offer is first published, sent, given or otherwise commenced, a statement

disclosing that the Veeco board of directors recommends rejection of such tender or exchange offer;

The Veeco board of directors shall have granted any approval or taken any other step to exempt any transaction (other than the merger) from the requirements and provisions of Section 203 of the Delaware General Corporation Law or other state anti-takeover statutes or regulations; or

Veeco's board of directors shall have amended or resolved to amend the Veeco Rights Agreement, dated as of March 13, 2001, between Veeco and American Stock Transfer and Trust Company in a manner so as to render it inapplicable to any Veeco Acquisition Proposal (other than with respect to the merger).

Fees and Expenses

Payment of Fees and Expenses. Generally, all fees and expenses incurred in connection with the merger agreement, the merger and the other transactions contemplated by the merger agreement will be paid by the party incurring the fees or expenses (whether or not the merger is completed), except that Veeco and FEI will share equally the fees and expenses relating to:

The filing, printing and mailing of this joint proxy statement/prospectus and the related registration statement; and

The filing of the premerger notification and report forms required by the HSR Act and any notice or other document required to be filed under any foreign antitrust law or regulation.

Veeco will be required to pay FEI's fees (including attorneys' fees, accountants' fees, financial advisory fees and filing fees) and reasonable, documented out-of-pocket expenses incurred in connection with the preparation and negotiation of the merger agreement and otherwise in connection with the merger not in excess of $5 million in the following circumstances:

In the event that the merger agreement is terminated by Veeco or FEI because Veeco stockholders do not approve the issuance of Veeco common stock to FEI shareholders in the merger and the amendment to Veeco's Amended and Restated Certificate of Incorporation to increase the authorized shares of Veeco's common stock at the Veeco special meeting, and at or

prior to the time of such termination a Veeco Acquisition Proposal shall have been publicly disclosed, announced, commenced, submitted or made and not subsequently unconditionally withdrawn.

If Veeco breaches its representations, warranties or covenants in a manner that gives FEI the right to terminate the merger agreement and FEI then terminates the merger agreement.

FEI will be required to pay Veeco's fees (including attorneys' fees, accountants' fees, financial advisory fees and filing fees) and reasonable, documented out-of-pocket expenses incurred in connection with the preparation and negotiation of the merger agreement and otherwise in connection with the merger not in excess of $5 million in the following circumstances:

In the event that the merger agreement is terminated by Veeco or FEI because FEI shareholders do not approve the merger at the FEI special meeting, and at or prior to the time of such termination an FEI Acquisition Proposal shall have been publicly disclosed, announced, commenced, submitted or made and not subsequently unconditionally withdrawn.

If FEI breaches its representations, warranties or covenants in a manner that gives Veeco the right to terminate the merger agreement and Veeco then terminates the merger agreement.

Termination Fees Payable by Veeco. Veeco will be required to pay FEI a termination fee of $30 million if the merger agreement is terminated in the following circumstances:

- By Veeco or FEI because Veeco's stockholders do not approve the issuance of Veeco common stock in the merger or the amendment to Veeco's Amended and Restated Certificate of Incorporation to increase the authorized shares of Veeco's common stock at the Veeco special meeting and, at or prior to the time the merger agreement is so terminated, a Veeco Acquisition Proposal has been publicly disclosed, announced, commenced, submitted or made and not subsequently unconditionally withdrawn, and within 12 months following the termination either a Veeco Acquisition Transaction (as defined above, except that all references to "15%" therein shall be deemed to read "40%") is consummated or Veeco enters into a letter of intent or contract providing for a Veeco Acquisition Transaction and such Veeco Acquisition Transaction is consummated within 24 months following termination of the merger agreement.

- By FEI (at any time prior to the approval of the issuance of Veeco common stock in the merger or the amendment to Veeco's Amended and Restated Certificate of Incorporation increasing the authorized shares of Veeco's common stock) in the event of a Veeco Triggering Event; *provided*, *however*, that if the merger agreement is terminated by FEI because of a breach by Veeco of its nonsolicitation obligations, then such termination fee will be payable only if within 12 months following the termination of the merger agreement, either a Veeco Acquisition Transaction (as defined above, except that all references to "15%" therein shall be deemed to read "40%") is consummated, or Veeco enters into a letter of intent or contract providing for a Veeco Acquisition Transaction and such Veeco Acquisition Transaction is consummated within 24 months following the termination of the merger agreement.

Termination Fees Payable by FEI. FEI will be required to pay Veeco a termination fee of $30 million if the merger agreement is terminated in the following circumstances:

- By Veeco or FEI because FEI's shareholders do not approve the merger at the FEI special meeting and, at or prior to the time the merger agreement is so terminated, an FEI Acquisition Proposal has been publicly disclosed, announced, commenced, submitted or made and not subsequently unconditionally withdrawn, and within 12 months following the termination either an FEI Acquisition Transaction (as defined above, except that all references to "15%" therein shall be deemed to read "40%") is consummated or FEI enters into a letter of intent or

contract providing for an FEI Acquisition Transaction and such FEI Acquisition Transaction is consummated within 24 months following termination of the merger agreement.

- By Veeco (at any time prior to the approval of the merger by FEI's shareholders) in the event of an FEI Triggering Event; *provided*, *however*, that if the merger agreement is terminated by Veeco because of a breach by FEI of its nonsolicitation obligations, then such termination fee will be payable only if within 12 months following the termination of the merger agreement, either an FEI Acquisition Transaction (as defined above, except that all references to "15%" therein shall be deemed to read "40%") is consummated, or FEI enters into a letter of intent or contract providing for an FEI Acquisition Transaction and such FEI Acquisition Transaction is consummated within 24 months following the termination of the merger agreement.

Amendment; Waiver

The merger agreement may be amended with the approval of FEI's board of directors and Veeco's board of directors at any time prior to the closing of the merger. However, after FEI's shareholders have approved the merger and Veeco's stockholders have approved the issuance of the shares of Veeco common stock in the merger, no amendment may be made that by law or NASD regulation requires further approval of Veeco's stockholders or FEI's shareholders, without first obtaining such approval. Any amendment to the merger agreement must be in writing and must be signed by each of the parties thereto. Any waiver under the merger agreement must be in writing and must be signed by the party to be charged with that waiver.

OTHER AGREEMENTS

Voting Arrangements With Veeco Stockholders

The following is a summary of voting agreements entered into by certain Veeco stockholders with, and related irrevocable proxies delivered by such stockholders to, FEI. Copies of such voting agreements and the irrevocable proxies granted to FEI by each Veeco stockholder party thereto are attached as Appendix C-1 and Appendix C-2 to this joint proxy statement/prospectus. This summary does not purport to be complete and is qualified in its entirety by reference to such documents. We urge you to carefully review such voting agreements and irrevocable proxies.

At the time of the execution of the merger agreement, Chorus, L.P., Veeco's largest stockholder, and each director and executive officer of Veeco, who held approximately 12.8% of the outstanding shares of Veeco common stock at that time, entered into voting agreements with FEI.

As of the Veeco record date, these Veeco stockholders held approximately % of the outstanding shares of Veeco common stock. Under these voting agreements, the Veeco stockholders have agreed to vote, and have granted irrevocable proxies to FEI to vote, their Veeco shares as follows:

- In favor of approval of the issuance of Veeco common stock to FEI shareholders in the merger;
- In favor of the approval of the amendment to Veeco's Amended and Restated Certificate of Incorporation increasing the authorized shares of Veeco common stock; and
- Against any transaction or proposal that would prevent or nullify the merger or the merger agreement.

The Veeco stockholders may, however, vote their Veeco shares in favor of a superior Veeco proposal or related Veeco acquisition transaction.

The Veeco stockholders, other than Chorus, L.P., have also agreed not to transfer their shares of Veeco common stock prior to the earlier of (1) the closing of the merger or (2) the termination of the merger agreement.

The voting agreements and the irrevocable proxies terminate upon the earliest to occur of:

- The closing of the merger;
- The termination of the merger agreement in accordance with its terms; and
- The execution of an amendment to the merger agreement that would cause each share of FEI common stock to be converted into the right to receive greater than 1.355 shares of Veeco common stock.

Other than inducing FEI to enter into the merger agreement, none of these Veeco stockholders received any additional consideration in exchange for entering into the voting agreement and granting the irrevocable proxy.

Voting Arrangements With FEI Shareholders

The following is a summary of material provisions of voting agreements entered into by certain FEI shareholders with, and the related irrevocable proxies delivered by such shareholders to, Veeco. Copies of such voting agreements and the irrevocable proxies granted to Veeco by each FEI shareholder party thereto are attached as Appendix B-1 and Appendix B-2 to this joint proxy statement/prospectus. This summary does not purport to be complete, and is qualified in its entirety by reference to such documents. We urge you to carefully review such voting agreements and irrevocable proxies.

At the time of the execution of the merger agreement, PBE, FEI's largest shareholder, and each director and executive officer of FEI, who held collectively approximately 27.4% of the outstanding shares of FEI common stock at that time, entered into voting agreements with Veeco.

As of the FEI record date, these shareholders held approximately % of the outstanding shares of FEI common stock. Under these voting agreements, the FEI shareholders have agreed to vote, and have granted irrevocable proxies to Veeco to vote, their FEI shares as follows:

In favor of approval of the merger; and

Against any transaction or proposal that would prevent or nullify the merger or the merger agreement.

The FEI shareholders may, however, vote their FEI shares in favor of a superior FEI proposal or related FEI acquisition transaction.

With the exception of PBE, FEI shareholders have also agreed not to transfer their shares of FEI common stock prior to the earlier of (1) the closing of the merger or (2) the termination of the merger agreement. PBE has agreed not to transfer its shares except (1) to a transferee that agrees to be bound by the voting agreement between PBE and Veeco and that enters into standstill arrangements identical in substance to those contained in the investor agreement among Veeco, FEI and PBE, or (2) in an FEI Acquisition Transaction, to a transferee that has made a Superior FEI Proposal.

The voting agreements and the irrevocable proxies terminate upon the earliest to occur of:

The closing of the merger;

The termination of the merger agreement in accordance with its terms; and

The execution of an amendment to the merger agreement that would cause each share of FEI common stock to be converted into the right to receive fewer than 1.355 shares of Veeco common stock.

Other than inducing Veeco to enter into the merger agreement, none of these FEI shareholders (other than PBE) received any additional consideration in exchange for entering into the voting agreement and granting the irrevocable proxy. As additional consideration for PBE entering into the voting agreement, Veeco also entered into an investor agreement with PBE and FEI, which agreement is more fully described below.

Investor Agreement With PBE

The following is a summary of material provisions of an investor agreement entered into among Veeco, FEI and PBE. A copy of such investor agreement is attached as Appendix G to this joint proxy statement/prospectus. This summary does not purport to be complete, and is qualified in its entirety by reference to such document. We urge you to carefully review such investor agreement.

At the time of the execution of the merger agreement, PBE, FEI's largest shareholder, entered into an investor agreement with Veeco and FEI.

Registration Rights

Under the terms of the investor agreement, Veeco agreed to grant to PBE certain demand registration and "piggyback" registration rights with respect to the shares of Veeco FEI common stock to be acquired by PBE in connection with the merger.

Specifically, Veeco has agreed that at any time following the closing of the merger, to and including the date on which the shares of Veeco FEI common stock owned by PBE may be publicly offered for sale in the United States by PBE without restriction and without registration under the

Securities Act, PBE shall have the right on two occasions to require Veeco FEI to file a registration statement under the Securities Act in respect of at least one-third of the Veeco FEI common stock held by PBE and its affiliates at the time of the closing of the merger.

In addition, if, at any time following the closing of the merger, Veeco FEI proposes, subject to certain exceptions, to register any shares of Veeco FEI common stock under the Securities Act, Veeco FEI shall give prompt written notice to PBE of its intention to do so, and, upon the written direction of PBE, Veeco FEI shall include in such registration statement such number of shares of Veeco FEI common stock owned by PBE and its affiliates as PBE may request, subject to customary provisions regarding "cutbacks."

Representation on Veeco FEI Board of Directors

Under the investor agreement, Veeco also has agreed that from the closing of the merger until the earlier of:

The first date on which Philips ceases to beneficially own at least 7.5% of the total current voting power of Veeco FEI; and

The date of the 2005 annual meeting of stockholders of Veeco FEI,

PBE may request that Veeco FEI include, as a nominee or designee to Class II (with a term expiring in 2005) of Veeco FEI's board of directors, one person nominated by PBE and reasonably satisfactory to Veeco FEI's board of directors. In the event of the death, incapacity, resignation or removal from Veeco FEI's board of directors of any PBE stockholder nominee, Veeco FEI shall cause another PBE stockholder nominee to be elected or appointed as a director to fill the vacancy.

Purchase of Additional Shares of Veeco FEI Common Stock

PBE and FEI also have agreed to terminate, as of the closing of the merger, Sections 2.1 and 5.18 of the Combination Agreement, dated November 15, 1996, between FEI and PBE and Section 4 of the Agreement, effective as of December 31, 2000, among FEI, PBE and Philips, which relate to the right of PBE to purchase additional shares of FEI common stock upon the exercise of FEI stock options. In return, Veeco assumed FEI's obligation to issue up to 524,846 additional Veeco shares of common stock to PBE upon the exercise of certain outstanding options. This includes the obligation to, at the sole option of PBE, transfer to PBE, no later than 30 calendar days following the close of the calendar quarter in which the closing of the merger occurs:

A number of shares of Veeco FEI common stock equal to the product of (1) 122.22%, multiplied by (2) the product of (A) the number of shares of FEI common stock issued and FEI stock options "cashed out" prior to the closing of the merger during such quarter upon exercise of such stock options, multiplied by (B) the exchange ratio in the merger; and

A number of shares of Veeco FEI common stock equal to the product of (1) 122.22%, multiplied by (2) the number of shares of Veeco FEI common stock issued and FEI stock options "cashed out" at or after the closing of the merger during such quarter upon exercise of such stock options.

Veeco FEI has also assumed FEI's obligation to, at the sole option of PBE, transfer to PBE, no later than 30 calendar days following the close of each calendar quarter following the calendar quarter of Veeco FEI in which the closing of the merger occurs, a number of securities equal to the product of (1) 122.22%, multiplied by (2) the number of securities issued and stock options "cashed out" during such quarter upon exercise of such stock options.

Standstill Provisions

Under the investor agreement, until the earliest to occur of (1) the termination (prior to the closing of the merger) of the merger agreement, (2) a change in control of Veeco FEI, (3) the first date on which Philips ceases to beneficially own at least 7.5% of the total current voting power of Veeco FEI, and (4) the date of the 2005 annual meeting of stockholders of Veeco FEI, PBE is subject to certain standstill restrictions and has agreed that it shall not, and shall not permit its affiliates to, without the prior written approval of Veeco FEI:

Beneficially own or acquire beneficial ownership of Veeco FEI common stock or authorize or make a tender offer, exchange offer or other offer to acquire Veeco FEI common stock, if the number of shares of Veeco FEI common stock beneficially owned by Philips exceeds (or would exceed following such acquisition) (1) the number of shares of Veeco FEI common stock issued to PBE upon conversion of shares of FEI common stock in accordance with the merger agreement, plus (2) the number of shares of Veeco FEI common stock issuable to PBE pursuant to the exercise of FEI stock options assumed by Veeco in the merger, as described above, plus (3) the acquisition by PBE or its affiliates of up to an additional one percent (1%) of Veeco FEI's outstanding common stock;

Solicit or engage in any solicitation of proxies with respect to any Veeco FEI common stock;

Deposit any Veeco FEI common stock in a voting trust or subject any Veeco FEI common stock to any arrangement or agreement with any third party with respect to the voting of such Veeco FEI common stock;

Join a group of persons required to file a Schedule 13D under the Exchange Act (other than a group comprised solely of Philips entities);

Publicly announce any intention to seek amendment or rescission of the provisions of the investor agreement relating to the standstill restrictions of PBE or make any proposal to amend, support or rescind any proposal to amend or rescind, or publicly comment on any proposal to amend or rescind, the Rights Agreement, dated as of March 13, 2001, between Veeco and American Stock Transfer and Trust Company or any other stockholder protection rights plan or "poison pill" adopted by or entered into by Veeco FEI by way of merger, in the case of each proposal, that has not received the affirmative vote of a majority of the disinterested directors of Veeco FEI or a unanimous written consent of the board of directors of Veeco FEI; or

Publicly announce any intention or desire to acquire Veeco FEI or all or a material portion of the assets of Veeco FEI, engage in a transaction that would result in a change of control of Veeco FEI or take any other action that would otherwise be prohibited under the standstill restrictions of the investor agreement.

Other Obligations of PBE. Other obligations of PBE under the investor agreement include PBE's obligation to promptly notify Veeco FEI upon PBE's or its affiliates' acquisition of additional Veeco FEI common stock and to be present (and to cause all of its affiliates holding Veeco FEI common stock to be present), at Veeco FEI's request, in person or by proxy, at all meetings of stockholders of Veeco FEI so that all such shares of Veeco FEI common stock may be counted for purposes of determining the presence of a quorum at such meetings.

Veeco Stockholder Rights Plan. Under the investor agreement, Veeco also agreed that the rights under its Rights Agreement, dated as of March 13, 2001, between Veeco and American Stock Transfer and Trust Company, as previously amended, will not be exercisable as a consequence of the beneficial ownership by Philips or its affiliates of the shares of Veeco common stock issued to PBE pursuant to the merger agreement or upon the future acquisition of shares of Veeco FEI common stock purchased pursuant to the exercise of FEI stock options assumed by Veeco FEI as discussed above.

Termination of Investor Agreement. The investor agreement will terminate upon the earliest to occur of:

The date on which PBE shall have received a written opinion of legal counsel reasonably satisfactory to PBE and Veeco FEI and addressed to PBE and Veeco FEI stating that the shares of Veeco FEI common stock owned by PBE may be publicly offered for sale in the United States by PBE without restriction as to manner of sale and amount of securities sold and

without registration under the Securities Act;

When all shares of Veeco FEI common stock held by PBE have been sold by PBE either pursuant to a registration statement or pursuant to a transaction or transactions exempt from the registration provisions of the Securities Act; and

The termination (prior to the closing of the merger) of the merger agreement in accordance with its terms.

Amendment Agreement among FEI, PBE and Philips

The following is a summary of material provisions of an amendment agreement entered into among FEI, Philips and PBE. A copy of such amendment agreement is attached as Appendix H to this joint proxy statement/prospectus. This summary does not purport to be complete, and is qualified in its entirety by reference to such document. We urge you to carefully review such amendment agreement.

At the time of the execution of the merger agreement, PBE, Philips and FEI entered into an agreement pursuant to which they agreed to terminate, at the closing of the merger, Section 5.16(e) of the Combination Agreement, dated November 15, 1996, between FEI and PBE, which subjects FEI's patents and patent applications to certain cross-licensing, pooling and other patent sharing or licensing arrangements with PBE. The termination of Section 5.16(e) does not modify or alter the validity or the scope of any cross-licensing, pooling or other patent sharing or licensing arrangements with PBE entered into prior to July 11, 2002.

Under the amendment agreement, PBE, Philips and FEI also have agreed to terminate Sections 1(b)(v) and 5 of the Agreement, effective as of December 31, 2000, among FEI, PBE and Philips, which provide for (1) FEI's opportunity to confidentially review Philips' patent applications in areas related to FEI's business and (2) cash payments to be made by Philips to FEI in 2002 and 2003.

AMENDMENT TO VEECO'S AMENDED AND RESTATED CERTIFICATE OF INCORPORATION TO INCREASE THE NUMBER OF AUTHORIZED SHARES OF VEECO COMMON STOCK

Veeco's Amended and Restated Certificate of Incorporation authorizes the issuance of up to 60,000,000 shares of Veeco common stock. As of June 30, 2002, there were 29,134,679 shares of Veeco common stock issued and outstanding, and the following shares were reserved for issuance:

Shares	Reserved for Issuance:
6,122,330	Upon exercise of stock options which have been granted pursuant to Veeco's stock option plans or assumed by Veeco in connection with the mergers with CVC and Applied Epi
211,603	Upon exercise of warrants assumed in connection with the Applied Epi merger
878,286	Upon the exercise of stock options available for grant under Veeco's stock option plans
78,155	Upon the sale of stock pursuant to Veeco's employee stock purchase plan
5,712,802	Upon conversion of Veeco's 4 1/8% subordinated convertible notes due 2008
13,003,176	Total Shares Reserved For Issuance

After taking into account the shares issued and outstanding and the shares reserved for issuance as set forth above, but prior to consummation of the merger, Veeco has 17,862,145 shares of common stock available for issuance.

In connection with the merger, Veeco will be obligated to issue approximately 44,000,000 shares of Veeco common stock and to reserve the following shares for issuance:

Reserved for Issuance:

Approximate Shares	
4,174,461	Upon exercise of stock options which have been granted pursuant to FEI's stock option plans and assumed by Veeco in connection with the merger
524,846	To PBE under the investor agreement
530,679	Upon the sale of stock pursuant to FEI's employee stock purchase plan
4,788,470	Upon conversion of FEI's 5.5% convertible subordinated notes due 2008
10,018,456	Total Shares Reserved For Issuance

At the Veeco special meeting, the Veeco stockholders will be asked to consider and vote upon a proposal, unanimously recommended and determined to be advisable by Veeco's board of directors, to amend Article 4 of Veeco's Amended and Restated Certificate of Incorporation, in order to increase the number of shares of Veeco common stock that Veeco has authority to issue from 60,000,000 shares to 175,000,000 shares. The purpose of the amendment is to provide Veeco with additional shares of Veeco common stock that may be used in connection with the merger and future acquisitions, for stock

splits and stock dividends and for other corporate purposes, including the raising of additional capital, at times when the board of directors of Veeco, in its discretion, deems it advantageous to do so.

Assuming the approval and effectiveness of the proposed amendment to Veeco's Amended and Restated Certificate of Incorporation and the completion of the merger, it is anticipated that Veeco will have approximately 79,000,000 authorized and unissued shares of Veeco common stock after the merger (after taking into account the number of issued and outstanding shares of Veeco common stock, the number of shares reserved for issuance by Veeco upon the exercise of Veeco's stock options and warrants, shares reserved for issuance under Veeco's employee stock purchase plan, shares reserved for issuance upon conversion of Veeco's outstanding convertible debt securities, shares to be issued to FEI shareholders in the merger, shares issuable upon the exercise of FEI options and upon conversion of the FEI notes assumed by Veeco in the merger, shares reserved for issuance under FEI's employee stock purchase plan assumed in the merger and shares that may become issuable to PBE under the investor agreement), which Veeco's board of directors would be able to authorize for issuance for the foregoing purposes, at any time, without obtaining further authorization from the holders of Veeco common stock, unless such authorization is required by applicable law, regulation or the rules of any stock exchange on which shares of Veeco's common stock may then be listed. Except as described above, no specific use of the additional shares of Veeco common stock is presently contemplated, although Veeco has considered additional acquisitions from time to time and reserves the right to use any additional authorized shares in the discretion of Veeco's board of directors. Holders of shares of Veeco common stock have no preemptive rights in connection with the issuance of additional shares of Veeco common stock. **A vote in favor of this proposal to amend Veeco's Amended and Restated Certificate of Incorporation will not be deemed to be a vote to approve the issuance of Veeco shares in the merger or the proposed amendment to Veeco's Amended and Restated Certificate of Incorporation relating to the change of the name of Veeco Instruments Inc. to Veeco FEI Inc.**

The issuance of additional shares of Veeco common stock may dilute the present equity ownership position of Veeco stockholders. The issuance of additional shares of Veeco common stock may, among other things, have a dilutive effect on Veeco's earnings per share and on the equity and voting power of existing Veeco stockholders and may adversely affect the market price of the Veeco common stock.

The availability for issuance of additional shares of Veeco common stock could enable Veeco's board of directors to render more difficult or discourage an attempt to obtain control of Veeco. The additional shares of Veeco common stock also could be utilized to render more difficult a merger or similar transaction, even it if appears to be desirable to a majority of the Veeco stockholders. Veeco is not aware of any pending or threatened efforts to obtain control of Veeco.

If Veeco's stockholders do not approve the proposed amendment to Veeco's Amended and Restated Certificate of Incorporation, Veeco would not have enough authorized shares to cover the shares to be issued to FEI shareholders in the merger and to be reserved for issuance upon the exercise of FEI stock options and conversion of the FEI notes to be assumed by Veeco in the merger. In that event, Veeco could be deemed to be in violation of contractual provisions in the merger agreement which, if deemed material, could give rise to FEI's right to terminate the merger agreement. In the case of such a termination by FEI, Veeco could be required to pay FEI's fees and expenses incurred in connection with the merger agreement and the merger. In addition, Veeco would not have such additional shares of Veeco common stock available for use in connection with the future acquisitions, for stock splits and stock dividends, and for other corporate purposes, including the raising of additional capital.

The full text of the proposed amendment to Veeco's Amended and Restated Certificate of Incorporation is set forth in Appendix F-1 hereto and the description of the proposed amendment herein is qualified in its entirety by reference to such Appendix F-1.

The affirmative vote of the holders of a majority of the outstanding shares of Veeco common stock entitled to vote thereon will be required to amend Veeco's Amended and Restated Certificate of Incorporation to increase the number of authorized shares of Veeco common stock.

The board of directors of Veeco believes that approval of this amendment to Veeco's Amended and Restated Certificate of Incorporation is in the best interests of Veeco and Veeco's stockholders and determined that this amendment is advisable. The board of directors of Veeco unanimously recommends a vote "FOR" approval of the amendment to increase the authorized number of shares of Veeco common stock as described above at Veeco's special meeting. In the event that this proposed amendment and the proposed amendment to change the name of Veeco to Veeco FEI are not approved by Veeco's stockholders at the Veeco special meeting, the Amended and Restated Certificate of Incorporation in effect as of the date hereof will remain in full force and effect.

AMENDMENT TO VEECO'S AMENDED AND RESTATED CERTIFICATE OF INCORPORATION TO CHANGE THE NAME OF VEECO INSTRUMENTS INC. TO VEECO FEI INC.

At the Veeco special meeting, the Veeco stockholders will be asked to consider and vote upon a proposal, unanimously recommended and determined to be advisable by Veeco's board of directors, to amend Article 1 of Veeco's Amended and Restated Certificate of Incorporation, to change the name of Veeco Instruments Inc. to Veeco FEI Inc. Veeco has agreed and is obligated to change its corporate name under the terms of the merger agreement.

Assuming the approval of the proposed amendment to Veeco's Amended and Restated Certificate of Incorporation and the completion of the merger, it is anticipated that Veeco will file the amendment immediately after the closing of the merger. **A vote in favor of this proposal to amend Veeco's Amended and Restated Certificate of Incorporation will not be deemed to be a vote to approve the issuance of shares in the merger or the proposed amendment to Veeco's Amended and Restated Certificate of Incorporation relating to the increase in the authorized shares of Veeco common stock.**

If Veeco's stockholders do not approve the proposed amendment to Veeco's Amended and Restated Certificate of Incorporation, Veeco could be deemed to be in violation of contractual provisions in the merger agreement which, if deemed material, could give rise to FEI's right to obtain damages under the merger agreement.

The full text of the proposed amendment to Veeco's Amended and Restated Certificate of Incorporation is set forth in Appendix F-2 hereto and the description of the proposed amendment herein is qualified in its entirety by reference to such Appendix F-2.

The affirmative vote of the holders of a majority of the outstanding shares of Veeco common stock entitled to vote thereon will be required to amend Veeco's Amended and Restated Certificate of Incorporation to change the name of Veeco Instruments Inc. to Veeco FEI Inc.

The board of directors of Veeco believes that approval of this amendment to Veeco's Amended and Restated Certificate of Incorporation is in the best interests of Veeco and Veeco's stockholders and determined that this amendment is advisable. The board of directors of Veeco unanimously recommends a vote "FOR" approval of the amendment to change the name of Veeco Instruments Inc. to Veeco FEI Inc. as described above at Veeco's special meeting. In the event that this proposed amendment and the proposed amendment to increase the number of authorized shares of Veeco common stock are not approved by Veeco's stockholders at the Veeco special meeting, the Amended and Restated Certificate of Incorporation in effect as of the date hereof will remain in full force and effect.

UNAUDITED PRO FORMA CONSOLIDATED FINANCIAL STATEMENTS

The unaudited pro forma consolidated financial statements are based upon the historical consolidated financial statements and notes thereto (as applicable) of Veeco and FEI, which are incorporated by reference herein. The unaudited consolidated balance sheet gives pro forma effect to the merger as if it had been consummated on March 31, 2002 and combines Veeco's March 31, 2002 unaudited consolidated balance sheet with FEI's March 31, 2002 unaudited consolidated balance sheet. The unaudited pro forma consolidated statements of operations give pro forma effect to the merger as if it had been consummated on January 1, 2001 and combine Veeco's consolidated statement of operations for the year ended December 31, 2001 with FEI's consolidated statement of operations for the year ended December 31, 2001 and Veeco's unaudited consolidated statements of operations for the three months ended March 31, 2001 and 2002, respectively, with FEI's unaudited consolidated statements of operations for the thirteen weeks ended April 1, 2001 and March 31, 2002, respectively. The pro forma adjustments are subject to change pending a final analysis of fair values of the assets acquired and liabilities assumed. The impact of these changes could be material.

In addition, on September 17, 2001, a wholly-owned subsidiary of Veeco merged with and into Applied Epi, Inc. of St. Paul, Minnesota. As a result of that merger, Applied Epi became a wholly-owned subsidiary of Veeco. The unaudited pro forma consolidated statements of operations for the three months ended March 31, 2001 and for the year ended December 31, 2001 give effect to the acquisition of Applied Epi by Veeco as if it occurred on January 1, 2001.

The unaudited pro forma consolidated financial statements are based upon the estimates and assumptions set forth in the notes to the unaudited pro forma consolidated financial statements. The pro forma adjustments (including estimates and assumptions) made in connection with the preparation of the pro forma information are preliminary and have been made solely for purposes of preparing such pro forma information for illustrative purposes necessary to comply with the disclosure requirements of the SEC. The unaudited pro forma consolidated financial statements do not purport to be indicative of the results of operations for future periods or the consolidated financial position or results that actually would have been realized had Veeco and FEI been a single entity during these periods. The unaudited pro forma consolidated financial statements do not give effect to any synergies, cost savings or integration costs that may result from the integration of Veeco's and FEI's businesses. Costs associated with the Veeco FEI transaction related to restructuring and integration have not yet been determined. In addition, FEI's operating costs have increased and may further increase due to the termination (and expected termination) of some of the tangible and intangible benefits and arrangements provided to FEI by Philips. Certain of these benefits and arrangements terminated prior to March 31, 2002 and a portion of these increased costs resulting therefrom have already been incurred by FEI. FEI has also received payments described herein from Philips which have offset certain of these increased costs and have been recorded by FEI as a reduction in costs and operating expenses. The unaudited pro forma consolidated financial statements exclude the effects of a portion of the additional operating costs which may be incurred in connection with the termination of certain arrangements between FEI and Philips. In addition, the unaudited pro forma financial statements exclude the effect of a portion of the increased additional pension costs which will be incurred in connection with the new collective bargaining agreements, which took effect September 1, 2001. For more information concerning these additional costs, see the section titled "Risk Factors - The combined company will be subject to increased operational costs and other risks because PBE no longer owns a majority of FEI's common stock."

These unaudited pro forma consolidated financial statements should be read in conjunction with the historical consolidated financial statements and the related notes thereto of Veeco and FEI, which are incorporated by reference herein.

UNAUDITED PRO FORMA CONSOLIDATED BALANCE SHEET

AT MARCH 31, 2002

(Dollars in thousands)

	Historical		Pro Forma	
	Veeco	FEI	Adjustments	Combined
Assets				
Current assets:				
Cash and cash equivalents	$ 219,108	$ 169,760	$	$ 388,868
Short-term investments		87,252		87,252

	Historical		Pro Forma	
Accounts receivable, net	69,815	94,553	18,736 (a)	183,104
Inventories	100,247	79,673	17,886 (b)	197,806
Prepaid expenses and other current assets	14,637	9,974		24,611
Deferred income taxes	49,549	16,004		65,553
Total current assets	453,356	457,216	36,622	947,194
Property, plant and equipment at cost, net	76,699	34,483		111,182
Excess of cost over net assets acquired, net	125,585	32,499	442,368 (c)	600,452
Long-term investments	34,912	21,484		56,396
Other assets, net	63,054	64,208	169,496 (d)	296,758
Total assets	$ 753,606	$ 609,890	$ 648,486	$ 2,011,982
Liabilities and stockholders' equity				
Current liabilities:				
Accounts payable	$ 19,809	$ 27,468	$	$ 47,277
Accrued expenses	49,163	26,352	20,000 (e)	95,515
Deferred revenue		30,310		30,310
Deferred gross profit	9,265		9,368 (a)	18,633
Income taxes payable	4,417	18,956		23,373
Other current liabilities	3,458	21,981		25,439
Total current liabilities	86,112	125,067	29,368	240,547
Deferred income taxes	10,155	4,106	80,211 (f)	94,472
Long-term debt	235,156	175,000		410,156
Other liabilities	1,777	2,756		4,533
Stockholders' equity:				
Common stock	290	318,853	(318,414)(g)	729
Additional paid-in capital	359,371		883,784 (g)	1,243,155
Retained earnings (deficit)	64,986	(4,441)	(31,024)(g)	29,521
Other comprehensive loss	(4,241)	(10,335)	10,335 (g)	(4,241)
Unamortized deferred compensation			(5,774)(g)	(5,774)
Other components of stockholders' equity		(1,116)		(1,116)
Total stockholders' equity	420,406	302,961	538,907	1,262,274
Total liabilities and stockholders' equity	$ 753,606	$ 609,890	$ 648,486	$ 2,011,982

See accompanying notes to unaudited pro forma consolidated financial statements.

UNAUDITED PRO FORMA CONSOLIDATED STATEMENT OF OPERATIONS
FOR THE YEAR ENDED DECEMBER 31, 2001
(In thousands, except per share data)

	Historical Veeco(1)	Historical Applied Epi	Applied Epi Pro Forma Adjustments	Veeco Pre-FEI Pro Forma Results	Historical FEI	Pro Forma Adjustments	Pro Forma Combined
Net sales	$ 431,499	$ 50,952	$	$ 482,451	$ 376,004	$	$ 858,455

Cost of sales	249,846	26,524		276,370	193,612		469,982
Gross profit	181,653	24,428		206,081	182,392		388,473
Costs and expenses:							
Research and development expense	58,735	4,531		63,266	41,503		104,769
Selling, general and administrative expense	80,468	7,072		87,540	71,620		159,160
Amortization expense	4,471	180	11,433 (h)	16,084	6,757	21,667 (k)	44,508
Other expense (income), net	2,336			2,336	(212)		2,124
Reorganization expense	3,046			3,046			3,046
Asset impairment charge	3,418			3,418	3,718		7,136
Write-off of purchased in process technology	1,200			1,200	3,438		4,638
Deferred compensation expense						3,849 (l)	3,849
Operating income	27,979	12,645	(11,433)	29,191	55,568	(25,516)	59,243
Interest (income) expense net	(637)	924	1,308 (i)	1,595	568		2,163
Income before income taxes	28,616	11,721	(12,741)	27,596	55,000	(25,516)	57,080
Income tax provision (benefit)	5,780		(357)(j)	5,423	22,494	(8,931)(m)	18,986
Income from continuing operations	$ 22,836	$ 11,721	$ (12,384)	$ 22,173	$ 32,506	$ (16,585)	$ 38,094
Earnings per common share:							
Income per common share from continuing operations	$ 0.88			$ 0.74	$ 1.06		$ 0.52
Diluted income per common share from continuing operations	$ 0.87			$ 0.73	$ 1.02		$ 0.50
Weighted average shares outstanding	25,938			29,821	30,563		73,715
Diluted weighted average shares outstanding	26,275			30,465	31,986		76,287

See accompanying notes to unaudited pro forma consolidated financial statements.

(1) Historical Veeco data is derived from Veeco's year ended December 31, 2001 operating results, excluding the operating results of Applied Epi, which was merged with and into Veeco on September 17, 2001.

UNAUDITED PRO FORMA CONSOLIDATED STATEMENT OF OPERATIONS
FOR THE THREE MONTHS ENDED MARCH 31, 2001
(In thousands, except per share data)

	Historical Veeco	Historical Applied Epi	Applied Epi Pro Forma Adjustments	Veeco Pre-FEI Pro Forma Results	Historical FEI	Pro Forma Adjustments	Pro Forma Combined
Net sales	$ 125,386	$ 8,479	$	$ 133,865	$ 93,515	$	$ 227,380
Cost of sales	66,696	4,771		71,467	48,572		120,039

				Veeco Pre-FEI Pro Forma Results		Pro Forma	
Gross profit	58,690	3,708		62,398	44,943		107,341
Costs and expenses:							
Research and development expense	15,107	1,819		16,926	9,297		26,223
Selling, general and administrative expense	21,134	1,762		22,896	17,224		40,120
Amortization expense	1,436	32	3,763 (h)	5,231	1,538	5,568 (k)	12,337
Other expense, net	1,406	120		1,526	154		1,680
Deferred compensation expense						962 (l)	962
Operating income (loss)	19,607	(25)	(3,763)	15,819	16,730	(6,530)	26,019
Interest (income) expense, net	(767)	254	327 (i)	(186)	41		(145)
Income (loss) before income taxes	20,374	(279)	(4,090)	16,005	16,689	(6,530)	26,164
Income tax provision (benefit)	7,158		(1,529)(j)	5,629	6,466	(2,286)(m)	9,809
Income (loss) from continuing operations	$ 13,216	$ (279)	$ (2,561)	$ 10,376	$ 10,223	$ (4,244)	$ 16,355
Earnings per common share:							
Income per common share from continuing operations	$ 0.54			$ 0.36	$ 0.36		$ 0.23
Diluted income per common share from continuing operations	$ 0.52			$ 0.35	$ 0.34		$ 0.22
Weighted average shares outstanding	24,678			28,561	28,686		72,455
Diluted weighted average shares outstanding	25,230			29,420	29,976		75,062

See accompanying notes to unaudited pro forma consolidated financial statements.

UNAUDITED PRO FORMA CONSOLIDATED STATEMENT OF OPERATIONS
FOR THE THREE MONTHS ENDED MARCH 31, 2002
(In thousands, except per share data)

	Historical		Pro Forma	
	Veeco	FEI	Adjustments	Combined
Net sales	$ 80,149	$ 84,498	$	$ 164,647
Cost of sales	46,414	44,652		91,066
Gross profit	33,735	39,846		73,581
Costs and expenses:				

	Historical		Pro Forma	
Research and development expense	13,329	10,739		24,068
Selling, general and administrative expense	19,037	17,335		36,372
Amortization expense	3,747	1,204	5,902 (k)	10,853
Other expense, net	49	354		403
Reorganization expense	837			837
Deferred compensation expense			962 (l)	962
Operating (loss) income	(3,264)	10,214	(6,864)	86
Interest expense, net	1,486	880		2,366
(Loss) income before income taxes	(4,750)	9,334	(6,864)	(2,280)
Income tax (benefit) provision	(1,598)	3,407	(2,402)(m)	(593)
(Loss) income from continuing operations	$ (3,152)	$ 5,927	$ (4,462)	$ (1,687)
(Loss) earnings per common share:				
(Loss) income per common share from continuing operations	$ (0.11)	$ 0.18		$ (0.02)
Diluted (loss) income per common share from continuing operations	$ (0.11)	$ 0.18		$ (0.02)
Weighted average shares outstanding	29,021	32,126		72,915
Diluted weighted average shares outstanding	29,021	33,477		72,915

See accompanying notes to unaudited pro forma consolidated financial statements.

NOTES TO UNAUDITED PRO FORMA CONSOLIDATED FINANCIAL STATEMENTS

Note 1 Pro forma Balance Sheet Adjustments

On July 11, 2002, Veeco, Venice Acquisition Corp., a wholly-owned subsidiary of Veeco, and FEI entered into a merger agreement providing for the merger of Venice Acquisition Corp., with and into FEI Company. Upon completion of the merger, FEI will become a wholly-owned subsidiary of Veeco. The acquisition will be accounted for as a purchase. Under the merger agreement, FEI shareholders will receive an aggregate of approximately 44.0 million shares of Veeco common stock (excluding Veeco shares issuable upon the exercise or conversion of FEI options or other rights or the FEI convertible notes). In connection with the merger, Veeco will incur acquisition costs and exchange and assume options of FEI for options to purchase approximately 4.2 million shares of Veeco's common stock and approximately 0.5 million shares of Veeco common stock issuable to PBE in connection with the investor agreement. The assumed options and shares issuable to PBE will be recorded at fair market value. The merger consideration is computed as follows:

Fair market value of shares issued	$ 840,123
Fair market of stock options/warrants assumed	44,100
Transaction costs	20,000
Total purchase price	$ 904,223

The fair value of the net assets acquired were estimated as follows for the purpose of preparing the pro forma balance sheet:

Tangible assets	$ 591,428
In-process technology	35,465
Goodwill	474,867
Amortizable intangible assets	198,971

Total assets	1,300,731
Liabilities assumed	(396,508)
Total purchase price	$ 904,223

The following notes explain the pro forma adjustments. The pro forma information excludes the effect of the potential issuance of 4,788,470 shares of Veeco common stock, in the aggregate, upon the conversion of FEI's $175 million principal amount of 5.5% convertible subordinated notes due August 15, 2008, which will be assumed by Veeco at the time of the merger.

(a)

Adjustment to reflect FEI's deferred gross profit and related accounts receivable of $18.7 million under SAB 101 to conform with Veeco's presentation. Additional pro forma adjustment to reduce FEI's deferred gross profit by $9.4 million to its estimated fair value as required by purchase accounting.

(b)

Adjustment to record a $17.9 million estimated step-up of inventory to its fair value.

(c)

Adjustment to record $474.9 million of estimated goodwill acquired in connection with Veeco's purchase of FEI, offset by the elimination of FEI's goodwill of $32.5 million.

(d)

Adjustment to record an estimated $234.4 million of other intangible assets acquired through the acquisition of FEI. This amount has been reduced by an estimated $35.5 million of purchased in-process technology, which will be charged to the post merger statement of operations, and the elimination of FEI's amortizable intangible assets of $29.5 million at March 31, 2002.

(e)

Adjustment to record estimated merger transaction fees and expenses of $20.0 million associated with the Veeco FEI merger.

(f)

Adjustment to record the estimated deferred tax liability of $88.9 million, due to the step-up in basis of assets associated with the Veeco FEI merger, offset by the elimination of an $8.7 million deferred tax liability in connection with the elimination of FEI's amortizable intangible assets of $29.5 million at March 31, 2002.

(g)

Adjustment to record the elimination of the equity of FEI including $318.9 million of common stock, $4.4 million of retained deficit and $10.3 million accumulated other comprehensive loss. In addition, this adjustment is to record the estimated fair market value of the shares and options to be issued in the merger with FEI aggregating $878.4 million.

Note 2 Pro forma Statements of Operations Adjustments

Details of the pro forma adjustments relating to the Veeco FEI merger and the Veeco/Applied Epi merger are set forth below:

(h)

Adjustment to record the amortization expense related to the amortizable intangible assets acquired in the Applied Epi merger.

(i)

Adjustment to record the reduction of interest income, due to the use of $32.7 million of cash related to the purchase of Applied Epi.

(j)

Adjustment to record an income tax provision (benefit) for Applied Epi and pro forma adjustments using a 35% tax rate. Prior to the Applied Epi merger, Applied Epi was an S Corporation and was not taxed at the corporate level.

(k)

Adjustment to record the amortization expense related to the estimated $199.0 million of amortizable intangible assets acquired. The average life of the amortizable intangible assets is estimated to be approximately seven years. The fair value of the amortizable intangible assets is preliminary and cannot be finalized prior to completion of the merger. A final determination of these fair values will be based upon an independent appraisal. The final valuation will be based on the actual net intangible assets of FEI that exist as of the date of completion of the merger. If the final valuation of amortizable intangible assets is different by $10.0 million from the preliminary estimate, the annual effect on earnings would be approximately $0.9 million for each $10.0 million change.

(l)

Adjustment to record the amortization expense related to deferred compensation, which is being amortized over one and one half years.

(m)

Adjustment to tax effect each of the above pro forma adjustments, utilizing a 35% tax rate.

The pro forma adjustments in the statements of operations do not give effect to the impact on gross profit of the adjustment to increase inventory by $17.9 million to its estimated fair value and the impact on sales and gross profit of the adjustment to reduce deferred gross profit by approximately $9.4 million to its estimated fair value. Such adjustments, which are reflected in the March 31, 2002 balance sheet, are required under the purchase method of accounting.

COMPARISON OF RIGHTS OF VEECO STOCKHOLDERS AND RIGHTS OF FEI SHAREHOLDERS

This section describes some of the differences as well as some of the similarities between the rights of holders of Veeco common stock and those of holders of FEI common stock. While we believe that the description covers the material differences between the two, this summary may not contain all of the information that is important to you, including information set forth in the certificate of incorporation of Veeco, articles of incorporation of FEI and bylaws of each company. You should carefully read this entire joint proxy statement/prospectus and the other documents we refer to for a more complete understanding of the differences between the rights of holders of Veeco common stock and those of holders of FEI common stock. You may obtain the information incorporated by reference without charge by following the instructions in the section titled "Where You Can Find More Information" beginning on page 126.

When Veeco and FEI complete the merger, FEI shareholders will become Veeco stockholders. FEI shareholders currently are governed by the Oregon Business Corporation Act and FEI's Amended and Restated Articles of Incorporation and Restated Bylaws. After the merger, the rights of FEI shareholders who receive common stock of Veeco will be governed by the Delaware General Corporation Law and Veeco's Amended and Restated Certificate of Incorporation and Amended and Restated Bylaws as in effect at the closing of the merger.

Description of Capital Stock

Veeco. Veeco's amended and restated certificate of incorporation authorizes Veeco to issue up to 60,500,000 shares of capital stock, consisting of two classes: 60,000,000 shares of common stock, $0.01 par value per share, and 500,000 shares of preferred stock, $0.01 par value per share, 30,000 shares of which have been designated as series A junior participating preferred stock in connection with the Veeco stockholder rights plan. With respect to Veeco's undesignated preferred stock, Veeco's board of directors is authorized, without stockholder approval, to designate one or more series of preferred stock and to determine the number of shares included in any series and the designation, powers, preferences and rights of the shares of each such series and the qualifications, limitations or restrictions thereof. On June 30, 2002, there were 29,134,679 shares of Veeco common stock and no shares of Veeco preferred stock issued and outstanding.

FEI. FEI's articles of incorporation authorize FEI to issue up to 45,500,000 shares of capital stock, consisting of two classes: 45,000,000 shares of common stock, no par value, and 500,000 shares of preferred stock, no par value per share. With respect to FEI's undesignated preferred stock, FEI's board of directors is authorized to designate one or more series of preferred stock and to determine the number of shares included in any series and the designation, preferences, limitations and relative rights of the shares of any series. The FEI board of directors is also authorized to increase or decrease the number of shares of any series of preferred stock subsequent to the issuance of shares of that series, subject to certain limitations. On June 30, 2002, there were 32,393,766 shares of FEI common stock and no shares of FEI preferred stock issued

and outstanding.

Voting Rights

Veeco. Veeco's bylaws provide that each Veeco stockholder has the right to one vote for each share of Veeco common stock registered in the stockholder's name on each matter submitted to a stockholder vote. Generally, other than the election of directors, who are elected by a plurality vote, and except as otherwise provided by the Delaware General Corporation Law, all matters to be voted on by Veeco stockholders must be approved by a majority of the votes cast. The Delaware General Corporation Law provides that a certificate of incorporation may allow cumulative voting for election of directors of a corporation or elections held under specified circumstances. Veeco's Amended and Restated Certificate of Incorporation does not provide for cumulative voting.

FEI. FEI's articles of incorporation provide that each FEI shareholder has the right to one vote for each share of FEI common stock registered in the shareholder's name on each matter submitted to

a shareholder vote. The FEI bylaws specify that, other than the election of directors and except as otherwise provided by the FEI articles of incorporation or by the Oregon Business Corporation Act, all matters to be voted on by FEI shareholders will be approved if the votes cast by shares entitled to vote favoring the action exceed the votes cast opposing the action. Unless otherwise provided in the FEI articles of incorporation, directors are elected by a plurality of the votes cast by shares entitled to vote in the election at a meeting at which a quorum is present. The Oregon Business Corporation Act provides that articles of incorporation may allow cumulative voting for elections of directors of a corporation. FEI's articles of incorporation do not provide for cumulative voting.

Stockholder Actions Generally

Veeco. Veeco's bylaws provide that, at each meeting of stockholders, the presence in person or by proxy of the holders of 50% of the shares entitled to vote shall constitute a quorum for the transaction of any business.

FEI. FEI's bylaws provide that, at each meeting of shareholders, the presence in person or by proxy of the holders of a majority of the shares entitled to vote shall constitute a quorum for the transaction of any business.

Special Meetings of Stockholders

Veeco. Under Delaware law, a special meeting of stockholders may be called by the board of directors or any other person as may be provided in the certificate of incorporation or bylaws. Veeco's bylaws provide that special meetings of the Veeco stockholders may be called at any time by Veeco's board of directors or by the President or Chief Executive Officer of Veeco and shall be called by the President, Chief Executive Officer or Secretary of Veeco upon the written request of a majority of Veeco's board of directors then in office or of 50% of the outstanding Veeco shares entitled to vote. Only business related to the purposes set forth in the notice of the meeting may be transacted at a special meeting.

FEI. Oregon law provides that a special meeting of shareholders may be called by the holders of at least ten percent (10%) of all the votes entitled to be cast on any issue proposed to be considered at the proposed special meeting, or by a corporation's board of directors, or by such other persons as are authorized under the corporation's articles of incorporation or bylaws. FEI's bylaws provide that special meetings of FEI shareholders may be called by the President or by the board of directors of FEI and shall be called by the President of FEI at the request of not less than one-tenth of all outstanding shares of FEI entitled to vote at the meeting.

Action by Written Consent in Lieu of a Stockholder Meeting

Veeco. Under Delaware law, unless otherwise provided in the certificate of incorporation, any action which may be taken at a meeting of stockholders may be taken without a meeting and without prior notice if a consent in writing is signed by the holders of outstanding shares having at least the minimum number of votes that would be necessary to take such action at a meeting at which all shares entitled to vote thereon were present and voted. Veeco's bylaws provide that no action required or permitted to be taken at any meeting of stockholders may be taken by written consent without a meeting.

FEI. Under Oregon law, any action required or permitted to be taken at a meeting of the shareholders may be taken without a meeting if the action is taken by all shareholders entitled to vote on the action. The action must be evidenced by one or more written consents describing the action taken and signed by all the shareholders entitled to vote on the action. FEI's bylaws provide that action required or permitted by law to be taken at a shareholders' meeting may be taken without a meeting if the action is taken by all the shareholders entitled to vote on the action and

evidenced by one or more written consents signed by all the shareholders entitled to vote on the action.

Appraisal/Dissenters' Rights

Veeco. Under Delaware law, a stockholder of a corporation participating in certain major corporate transactions may, under varying circumstances, be entitled to dissenters' rights or to appraisal rights pursuant to which such stockholder may receive cash in the amount of the fair market value of the shares held by such stockholder (as determined by a court or by agreement of the corporation and the stockholder) in lieu of the consideration such stockholder would otherwise receive in the transaction. Under Delaware law, such fair market value is determined exclusive of any element of value arising from the accomplishment or expectation of the merger or consolidation, and such appraisal rights are not available in the following situations:

With respect to the sale, lease or exchange of all or substantially all of the assets of a corporation;

With respect to a merger or consolidation by a corporation the shares of which are either listed on a national securities exchange (including The Nasdaq National Market) or are held of record by more than 2,000 stockholders if such stockholders receive only shares of the surviving corporation or shares of any other corporation that are either listed on a national securities exchange (including The Nasdaq National Market) or held of record by more than 2,000 holders, plus cash in lieu of fractional shares of such corporation; or

To stockholders of a corporation surviving a merger if no vote of the stockholders of the surviving corporation is required to approve the merger under Delaware law.

FEI. Under Oregon law, a shareholder is entitled to dissent from, and obtain payment of the fair value of the shareholder's shares in the event of, any of the following corporate acts: (1) consummation of a plan of merger to which the corporation is a party if shareholder approval is required and the shareholder is entitled to vote on the merger or if the corporation is a subsidiary that is merged with its parent; (2) consummation of a plan of share exchange to which the corporation is a party as the corporation whose shares will be acquired, if the shareholder is entitled to vote on the plan; (3) consummation of a sale or exchange of all or substantially all of the property of the corporation other than in the usual and regular course of business if the shareholder is entitled to vote on the sale or exchange, unless the sale is for cash pursuant to which all or substantially all of the net proceeds will be distributed to shareholders within one year; (4) an amendment of the articles of incorporation that materially and adversely affects rights in respect of a dissenter's shares because it (A) alters or abolishes a preemptive right of the holder of the shares to acquire shares or other securities or (B) reduces the number of shares owned by the shareholder to a fraction of a share if the fractional share so created is to be acquired for cash under Oregon law; or (5) any corporate action taken pursuant to a shareholder vote to the extent the articles of incorporation, bylaws or a resolution of the board of directors provides that voting or nonvoting shareholders are entitled to dissent and obtain payment for their shares. Unless the articles of incorporation provide otherwise, dissenters' rights do not apply to the holders of shares of any class or series if the shares of the class or series were registered on a national securities exchange or quoted on The Nasdaq National Market on the record date for the meeting of shareholders at which the corporate action giving rise to dissenters' rights is to be approved.

Record Date for Determining Stockholders

Veeco. Veeco's bylaws provide that Veeco's board of directors may fix a record date that is not more than 60 nor less than 10 days before the date of a Veeco stockholders meeting or more than 60 days before any other action.

FEI. FEI's bylaws provide that FEI's board of directors may fix, in advance, a record date that is not more than 70 nor less than 10 days before the date of an FEI shareholders meeting. A determination of shareholders entitled to notice of or to vote at a shareholders meeting is effective for any adjournment of the meeting unless FEI's board of directors fixes a new record date, which it must do if the meeting is adjourned to a date more than 120 days after the date fixed for the original

meeting. If a court orders a meeting adjourned to a date more than 120 days after the date fixed for the original meeting, it may provide that the original record date continue in effect or it may fix a new record date.

Notice of Meetings

Veeco. Veeco's bylaws provide that written notice of each meeting of Veeco's stockholders shall be given to each Veeco stockholder entitled to vote at the meeting, except that:

It shall not be necessary to give notice to any Veeco stockholder who submits a signed waiver of notice before or after the meeting; and

No notice of an adjourned meeting need be given if the time and place are announced at the meeting at which the adjournment is taken except that, if adjournment is for more than thirty days or if, after the adjournment, a new record date is fixed for the meeting.

Each notice of a meeting shall be given, personally or by mail, not less than 10 nor more than 60 days before the meeting and shall state the time and place of the meeting, and unless it is the annual meeting, shall state at whose direction or request the meeting is called and the purposes for which it is called.

FEI. FEI's bylaws provide for notice provisions similar to those of Veeco's bylaws with respect to meetings of FEI shareholders, although its bylaws specify that no notice of an adjourned meeting need be given unless the FEI board of directors fixes a new record date more than 120 days after the date fixed for the original meeting.

Annual Meeting

Veeco. Veeco's bylaws specify that the annual meeting of Veeco's stockholders shall be held at a place and time determined by Veeco's board of directors. At the Veeco annual meeting, Veeco's stockholders elect directors and transact any other business that is properly brought before the meeting and described in the notice of meeting.

FEI. FEI's bylaws provide that the annual meeting of FEI's shareholders shall be held on the third Wednesday in May in each year at 10:00 a.m., unless a different date and time are fixed by the FEI board of directors and stated in the notice of the meeting.

Number, Class and Term of Directors

Veeco. Veeco's bylaws provide that Veeco's board of directors be divided into three classes with staggered three-year terms. As a result, only one of the three classes of Veeco's board of directors will be elected each year. Veeco's bylaws provide that the exact number of the directors on the board of directors shall be not less than three, nor more than fifteen, the exact number of which shall be determined from time to time by resolution of Veeco's board of directors. Directors shall be elected at each annual meeting of Veeco's stockholders and shall hold office until the election and qualification of his or her successor or until his or her earlier resignation or removal by vote of Veeco's stockholders. As of August 9, 2002, Veeco's board of directors was comprised of nine directors.

Upon completion of the merger, the board of directors of Veeco FEI will be comprised of thirteen individuals, seven of whom will be nominated by Veeco, five of whom will be nominated by FEI and one of whom will be nominated by PBE pursuant to the terms of an investor agreement among Veeco, FEI and PBE.

FEI. FEI's bylaws provide that FEI's board of directors must be composed of between six and eleven directors, as fixed by the FEI board of directors or shareholders. As of August 9, 2002, the FEI board of directors had eight directors. The FEI board of directors is not classified into separate classes. The directors are elected each year at the annual meeting of shareholders.

Election of Directors

Veeco and FEI. The holders of Veeco and FEI common stock elect all members of their respective boards of directors. Veeco and FEI directors are elected by a plurality of the votes of the shares present in person or represented by proxy at the meeting and entitled to vote on the election of directors.

Resignation and Removal of Directors

Veeco. Veeco's bylaws provide that any Veeco director may resign at any time upon written notice to the Chief Executive Officer or Secretary of Veeco and be removed, with cause, by vote of Veeco's stockholders.

FEI. FEI's bylaws provide that any director may be removed from the FEI board of directors at any meeting of the shareholders called for that purpose by a majority of the FEI common stock represented and entitled to vote at the meeting. Any director may resign by delivering written notice to the FEI board of directors, its chairperson or to FEI. Such resignation shall be effective:

On receipt;

Five days after its deposit in the United States mails; or

On the date shown on the return receipt, if sent by registered or certified mail, return receipt requested, and the receipt is signed by addressee, unless the notice specifies a later effective date.

Once delivered, a notice of resignation is irrevocable unless revocation is permitted by the FEI board of directors.

Board of Directors Vacancies

Veeco. Veeco's bylaws state that any vacancy on the Veeco board of directors, including any newly created Veeco directorship resulting from an increase in the number of Veeco directors, may be filled only by the vote of a majority of the remaining Veeco directors, though less than a quorum.

FEI. FEI's bylaws provide that vacancies on the FEI board of directors may be filled by the shareholders, the FEI board of directors or the vote of a majority of the remaining directors if the remaining directors constitute less than a quorum of the FEI board of directors or by a sole remaining director. A director so elected to fill a vacancy serves until the next annual meeting of shareholders and until the director's successor is elected and qualified.

Annual Meeting of the Board of Directors

Veeco. Veeco's bylaws provide that annual meetings of the Veeco board of directors, for the election of officers and consideration of other matters, shall be held either:

Without notice immediately after the annual meeting of Veeco stockholders and at the same place; or

At such time and place as the chairman of the board shall determine, with notice of the time and place of the meeting of the Veeco board of directors being given to each Veeco director by mailing it to him at his residence or usual place of business at least three days before the meeting, or by delivering or telephoning or telecopying it to him at least two days before the meeting.

FEI. FEI's bylaws state that the annual meeting of the FEI board of directors shall be held without notice other than FEI's bylaws, immediately after, and at the same place as, the annual meeting of shareholders.

Notice of Special Meetings of the Board of Directors

Veeco. Veeco's bylaws state that special meetings of Veeco's board of directors may be called by the Chief Executive Officer of Veeco or by a majority of the entire Veeco board of directors. Notice of the time and place of each special meeting of Veeco's board of directors shall be given to each Veeco

director by mailing it to him at his residence or usual place of business at least three days before the meeting, or by delivering or telephoning or telecopying it to him at least two days before the meeting. Notice of a special meeting of Veeco's board of directors shall also state the purpose or purposes for which the meeting is called.

FEI. FEI's bylaws state that special meetings of the board of directors of FEI may be called at the direction of the President of FEI or by a majority of FEI directors then in office. Notice of the date, time and place of any special meetings of the FEI board of directors shall be given in a manner reasonably likely to be received at least three days prior to the meeting by any means provided by law. Neither the business to be transacted at, nor the purpose of, any regular or special meeting of the FEI board of directors need be specified in the notice or waiver of notice of such meeting.

Board Action

Veeco. Veeco's bylaws provide that a majority of the entire board of directors shall constitute a quorum for the transaction of business at any meeting. Action of the board of directors shall be authorized by the vote of a majority of the directors present at the time of the vote if there is a quorum, unless otherwise provided in Veeco's bylaws or by applicable law. In the absence of a quorum, a majority of the directors present may adjourn any meeting from time to time until a quorum is present.

FEI. FEI's bylaws provide that a majority of the number of directors shall constitute a quorum for the transaction of business at any meeting of the FEI board of directors. The act of the majority of the directors present at a meeting at which a quorum is present shall be the act of the FEI board of directors, unless a different number is provided by law, or by FEI's articles of incorporation or bylaws.

Actions in Writing; Participation by Conference Telephone

Veeco and FEI. Both Veeco's and FEI's bylaws provide that:

Action by the board of directors and committees thereof may be taken without a meeting if all of the members of the board of directors or committee consent thereto in writing, and the writing is filed with the minutes of proceedings of the board of directors or the appropriate committee; and

Members of the board of directors or a committee thereof may participate in a meeting by means of a telephone conference or similar communications equipment by means of which all persons participating in the meeting can hear each other.

Action by Committees

Veeco. Veeco's bylaws create the following committees, with the following powers and duties:

Compensation Committee The Veeco compensation committee shall be comprised of three or more Veeco directors. The Veeco compensation committee shall fix the compensation of the Chief Executive Officer and such other executive officers as it shall determine, and determine and administer any stock option, stock appreciation or other incentive compensation programs of Veeco.

Audit Committee The Veeco audit committee shall be comprised of three or more Veeco directors who are not employees of Veeco. The Veeco audit committee shall have full corporate power and authority to act in respect of any matter which may develop or arise in connection with any audit or the maintenance of internal accounting controls or any other matter relating to Veeco's financial affairs. The Veeco audit committee shall review, at least once each fiscal year, the services performed and to be performed by Veeco's independent public accountants and the fees charged therefor, and, in connection therewith, consider the effect of any nonaudit services on the independence of such accountants. The Veeco audit committee shall also review with Veeco's independent public accountants and its internal audit department the general scope of their respective audit coverages, the procedure and internal accounting controls adopted by Veeco and any significant matters encountered by any of them.

Nominating Committee The Veeco nominating committee shall be comprised of three or more directors. The Veeco nominating committee shall provide to the Veeco board of directors its recommendations regarding individuals to be considered for election as directors of Veeco at meetings of the Veeco stockholders and shall have such other powers and duties as may be determined by the Veeco board of directors from time to time.

Veeco's bylaws also provide that the Veeco board of directors may designate one or more directors as alternate members of any Veeco committee, who may replace any absent or disqualified member. In the absence or disqualification of any member of a Veeco committee, the member or members present at a meeting of the committee and not disqualified, whether or not a quorum, may unanimously appoint another Veeco director to act at the meeting in place of the absent or disqualified member. All action of a Veeco committee shall be reported to the Veeco board of directors at its next meeting.

FEI. Unless FEI's articles of incorporation provide otherwise, FEI's bylaws authorize the FEI board of directors to create one or more committees and appoint members of the FEI board of directors to serve on them. Each committee shall have two or more members, who serve at the direction of the FEI board of directors. A majority of all directors in office must approve the creation of a committee and the appointment of its members. The creation of a committee, the delegation of authority to it or action by a committee shall not alone constitute compliance by a director with standards of conduct prescribed by law. No member of any committee shall continue to be a member thereof after ceasing to be an FEI director. The FEI board of directors shall have the power at any time to increase or decrease the number of members of any committee, to fill vacancies thereon, to change any member thereof and to change the functions or terminate the existence thereof.

A committee shall not have the authority of the FEI board of directors in reference to:

Authorizing dividends;

Approving or proposing to shareholders actions that the law requires to be approved by shareholders;

Filling vacancies on the FEI board of directors or on any of its committees;

Amending FEI's articles of incorporation;

Adopting, amending or repealing FEI's bylaws;

Approving a plan of merger not requiring shareholder approval;

Authorizing or approving reacquisition of shares, except according to a formula or method prescribed by the FEI board of directors; or

Authorizing or approving the issuance or sale or contract for sale of shares, or determining the designation and relative rights, preferences and limitations of a class or series of shares, except where the FEI board of directors has authorized a committee or a senior executive officer of FEI to do so within limits specifically prescribed by the FEI board of directors.

FEI has the following standing committees with the following powers and duties:

Audit Committee The audit committee makes recommendations concerning the engagement of the independent public accountants, reviews with the independent public accountants the plans and results of the audit engagement, approves professional services provided by the independent public accountants, reviews the independence of the independent public accountants, considers the range of the audit and non-audit fees and reviews the adequacy and completeness of FEI's internal accounting controls and financial statements.

Compensation Committee The compensation committee determines compensation for FEI's executive officers and administers FEI's stock incentive plans and employee stock purchase plan.

Nominating Committee The nominating committee reviews qualifications and makes recommendations to the board concerning nominees to the board of directors and board membership. The nominating committee has not put in place a procedure for considering nominees recommended by security holders.

Amendment of Certificate of Incorporation and Articles of Incorporation

Veeco. Section 242 of the Delaware General Corporation Law authorizes a corporation to amend its certificate of incorporation in any way so long as the certificate of incorporation, as amended, would only contain provisions lawful and proper for insertion in an original certificate of incorporation. Section 242 of the Delaware General Corporation Law requires that, to amend a certificate of incorporation:

The Veeco board of directors must approve a resolution describing the proposed amendment and determine that the proposed amendment is advisable; and

A majority of the outstanding stock entitled to vote on the proposed amendment must approve the amendment at a special or annual meeting of the stockholders.

FEI. The FEI board of directors may make specified minor changes to FEI's articles of incorporation without shareholder action. In general, other amendments to FEI's articles of incorporation must be recommended to FEI shareholders by the FEI board of directors and approved by a majority of the votes entitled to be cast by any voting group with which the amendment would create dissenters' rights and a majority of the shares that have a right to vote on the amendment, unless a higher percentage is specified by the Oregon Business Corporation Act, FEI's articles of incorporation or the FEI board of directors.

Amendment of Bylaws

Veeco and FEI. The bylaws of both Veeco and FEI provide that FEI's and Veeco's respective boards of directors have the power to adopt, amend or repeal their respective bylaws. The stockholders of Veeco and the shareholders of FEI also have the power to adopt, amend or repeal their respective bylaws. The bylaws of Veeco FEI will require a vote of two-thirds of the entire board of directors to amend, alter or repeal the provisions of Veeco FEI's bylaws relating to the resignation and removal of, and the roles of, the President and Chief Executive Officer and Chairman.

Dividends and Repurchase of Shares

Veeco. Delaware law permits a corporation to declare and pay dividends out of surplus or, if there is no surplus, out of net profits for the fiscal year in which the dividend is declared and/or for the preceding fiscal year. If the amount of capital of the corporation following the declaration and payment of the dividend is less than the aggregate amount of the capital represented by the issued and outstanding stock of all classes having a preference upon the distribution of assets, the directors may not declare and pay out a dividend from the corporation's net profits. In addition, Delaware law generally provides that a corporation may redeem or repurchase its shares only if the capital of the corporation is not impaired and such redemption or repurchase would not impair the capital of the corporation.

FEI. Under Oregon law, the board of directors of a corporation may authorize and the corporation may make distributions (including dividends) to shareholders only if after giving effect to the distribution (1) the corporation would be able to pay its debts as they become due in the usual course of business and (2) the corporation's total assets would at least equal the sum of the total liabilities plus, unless the corporation's articles of incorporation permit otherwise, the amount that would be needed if the corporation were to be dissolved at the time of the distribution to satisfy the preferential rights upon dissolution of shareholders whose preferential rights are superior to those receiving the distribution.

Limitation of Director Liability

Veeco and FEI. The Veeco certificate of incorporation and the FEI bylaws limit the liability of Veeco's and FEI's respective directors to the fullest extent permitted by the Delaware General Corporation Law and Oregon Business Corporation Act, respectively.

Indemnification

Veeco. Veeco's Amended and Restated Certificate of Incorporation and bylaws provide that its directors, officers, employees and agents shall be indemnified to the fullest extent authorized by the Delaware General Corporation Law.

FEI. FEI's bylaws provide that FEI shall indemnify to the fullest extent not prohibited by law any current or former officer or director who is made, or threatened to be made, a party to an action, suit or proceeding, whether civil, criminal, administrative, investigative or otherwise (including an action, suit or proceeding by or in the right of FEI) by reason of the fact that the person is or was acting as a director, officer or agent of FEI or as a fiduciary within the meaning of the Employee Retirement Income Security Act of 1974 with respect to any employee benefit plan of FEI, or serves or served at the request of FEI as a director or officer, or as a fiduciary of an employee benefit plan, of another corporation, partnership, joint venture, trust or other enterprise. The indemnification shall not be deemed exclusive of any other rights to which such person may be entitled under any bylaw, agreement, vote of shareholders or disinterested directors or otherwise, both as to action in the official capacity of the person indemnified and as to action in another capacity while holding such office.

Interested Director Transactions

Veeco. The Veeco amended and restated certificate of incorporation does not specifically address interested director transactions. Under the Delaware General Corporation Law, certain contracts or transactions in which one or more of the directors of Veeco has an interest are void or voidable unless:

- The stockholders of Veeco approve the contract or transaction after full disclosure of material facts;
- The Veeco board of directors approves the transaction after full disclosure of material facts and the transaction is fair, and approved by a majority of the disinterested directors of Veeco, even though less than a quorum; or
- The contract or transaction must have been fair to Veeco at the time it was authorized, approved or ratified, by Veeco's board of directors, a committee, or the stockholders.

FEI. The FEI articles of incorporation do not specifically address interested director transactions. Under the Oregon Business Corporation Act, a conflict of interest transaction is not voidable by FEI solely because of a director's interest in the transaction if:

- The material facts of the transaction and the director's interest were disclosed to the FEI board of directors or a committee thereof and the transaction has been authorized, approved or ratified by FEI's board of directors or a committee thereof; or
- The transaction was fair to FEI.

Interested Stockholder Transactions

Veeco and FEI. Veeco and FEI are subject to the provisions of the Delaware General Corporation Law and the Oregon Business Corporation Act, respectively, which both prohibit a corporation from engaging in a business combination with an interested stockholder for three years

following the date the stockholder became an interested stockholder. The Delaware General Corporation Law specifically excepts such business combinations where:

- Prior to the date the stockholder became an interested stockholder, the board of directors approved either the business combination or the transaction that resulted in the stockholder becoming an interested stockholder;
- Upon completion of the transaction that resulted in the stockholder becoming an interested stockholder, the interested stockholder owned at least 85% of the voting stock of the corporation outstanding at the time the transaction began; or
- On or following the date the stockholder became an interested stockholder, the business combination is approved by the board of directors and authorized at an annual or special meeting of stockholders, and not by written consent, by the affirmative vote of at least two-thirds of the outstanding voting stock not owned by the interested stockholder.

A business combination is defined to include:

- Any merger or consolidation involving the corporation and the interested stockholder;

Any sale, transfer, pledge or other disposition of 10% or more of the assets of the corporation involving the interested stockholder;

Subject to limited exceptions, any transaction that results in the issuance or transfer by the corporation of any stock of the corporation to the interested stockholder;

Any transaction involving the corporation that has the effect of increasing the proportionate share of the stock of any class or series of the corporation beneficially owned by the interested stockholder; or

The receipt by the interested stockholder of the benefit of any loans, advances, guarantees, pledges or other financial benefits provided by or through the corporation.

Generally, an interested stockholder is a person who, together with its affiliates and associates, owns 15% or more of the corporation's voting stock or owned 15% of such voting stock within three years before the proposed business combination, or is affiliated with the corporation.

Although the Oregon business combination statute generally replicates Delaware's business combination statute, the Oregon statute omits a significant provision dealing with competitive bidding contests for corporate control. Section 203(b)(6) of the Delaware General Corporation Law generally relieves a bidder from the restrictions of the business combination statute if the board of directors has approved or not opposed a combination with a competing bidder. The basic policy behind Section 203(b)(6) is that once the board of directors has decided to sell the corporation or a majority of its assets or has approved, or not opposed, a tender or exchange offer for 50% or more of the corporation's outstanding stock, the stockholders of the corporation are benefited by the promotion of bidding contests. Section 203(b)(6) allows a bidder who announces a transaction subsequent to the public announcement of a management-approved transaction and prior to the completion or abandonment of the approved transaction to be free of the requirements of Section 203.

Oregon also has enacted a control share statute that is contained in the Oregon Business Corporation Act. The Oregon Control Share Act provides that "control shares" of a corporation acquired in a control share acquisition have no voting rights except as granted by the shareholders of the corporation. "Control shares" are shares which, when added to shares then owned or controlled by a shareholder, increase the shareholder's control of voting power above one of three thresholds:

More than one-fifth of the outstanding voting power of the corporation;

More than one-third of the outstanding voting power of the corporation; or

More than one-half of the outstanding voting power of the corporation.

A majority of the votes cast by holders of shares entitled to vote, excluding shares voted or controlled by the acquiring person and officers and directors, must approve voting rights for shares acquired in a control share acquisition. No such approval, however, is required for gifts or other transactions not involving consideration, for a merger to which the corporation is a party, or other transactions described in the Oregon Control Share Act.

Submission for shareholder consideration of a resolution to grant voting rights to control shares must be preceded by the filing with the corporation of a statement by the acquiring person providing certain specified information. If the acquiring person requests a special meeting of shareholders when it delivers its statement and submits an undertaking to pay the corporation's expenses, the corporation shall call a special meeting to consider solely the voting rights to be accorded the voting shares acquired in the control share acquisition, not later than 10 days from the date of receipt of the acquiring person's statement. Unless the acquiring person agrees otherwise in writing, the special meeting of shareholders shall be held no sooner than 30 days and no later than 50 days after receipt by the corporation of the acquiring person's statement. If no request for a special meeting of shareholders is made in the acquiring person's statement, the board of directors shall present to the next annual or special meeting of shareholders occurring more than 60 days after the filing of the acquiring person's statement, the voting rights to be accorded the voting shares acquired in the control share acquisition.

Unless otherwise provided in a corporation's articles of incorporation or bylaws, if control shares acquired in a control share acquisition are accorded full voting rights and the acquiring person has acquired a majority of all voting power of the corporation, the shareholders of the corporation, other than the acquiring person, have dissenters' rights and shall be entitled to obtain the fair value of the holder's shares. "Fair value" means a value not less than the highest price paid per share by the acquiring person in the control share acquisition.

Liquidation

Veeco and FEI. Under both the Delaware General Corporation Law and the Oregon Business Corporation Act, in the event of a liquidation, dissolution or winding up of a corporation, after payment of any amounts owed to creditors, subject to preferences of any outstanding preferred stock, the remaining assets of the corporation will be divided equally, on a share for share basis, among the holders of common stock of the corporation.

Rights Plan

Veeco. Veeco and American Stock Transfer and Trust Company, as rights agent, entered into a rights agreement, dated as of March 13, 2001. Pursuant to the rights agreement, on March 13, 2001 Veeco's board of directors declared a dividend distribution of one right for each outstanding share of Veeco common stock to stockholders of record at the close of business on March 30, 2001. Each right entitled the registered holder to purchase from Veeco a unit consisting of one ten-thousandth of a share of Series A Junior Participating Preferred Stock, par value $0.01 per share, at a purchase price of $200 per unit.

Subject to certain exceptions specified in the rights agreement, the rights are separate from the Veeco common stock and a distribution date will occur upon the earlier of:

10 days following a public announcement that a person or group of affiliated or associated persons has acquired beneficial ownership of 15% or more of the outstanding shares of Veeco's common stock; or

10 business days following the commencement of a tender offer or exchange offer that would result in a person or group acquiring 15% or more of the outstanding shares of Veeco's common stock.

The rights are not exercisable until the distribution date and will expire on March 30, 2011, unless such date is extended or the rights are earlier redeemed or exchanged by Veeco.

If a person acquires 15% or more of the outstanding shares of Veeco's common stock, except pursuant to an offer for all outstanding shares of common stock that the independent directors determine to be fair and not inadequate to, and to otherwise be in the best interests of Veeco and its stockholders, after receiving advice from one or more investment banking firms, then each holder of a right will have the right to receive, upon exercise, common stock (or, in certain circumstances, cash, property or other securities of Veeco) having a value equal to two times the exercise price of the right. All rights that are, or (under certain circumstances specified in the rights agreement) were beneficially owned by the person who acquired 15% or more of the outstanding shares of Veeco common stock become null and void.

If, at any time following the date of public announcement that a person has acquired 15% or more of the outstanding shares of Veeco common stock:

Veeco engages in a merger or other business combination transaction in which Veeco is not the surviving corporation (other than in limited circumstances);

Veeco engages in a merger or other business combination transaction in which Veeco is the surviving corporation and the common stock of Veeco is changed or exchanged; or

50% or more of Veeco's assets, cash flow or earning power is sold or transferred,

then each holder of a right (except rights which have previously been voided as set forth above) shall thereafter have the right to receive, upon exercise, common stock of the acquiring company having a value equal to two times the exercise price of the right.

At any time after a person acquires 15% or more of the outstanding shares of Veeco's common stock and prior to the acquisition by such person or group of fifty percent (50%) or more of the outstanding common stock, the Veeco board of directors may exchange the rights (other than rights owned by such person or group which have become void), in whole or in part, at an exchange ratio of one share of common stock, or one ten-thousandth of a share of preferred stock (or of a share of a class or series of Veeco's preferred stock having equivalent rights, preferences and privileges), per right (subject to adjustment).

In certain circumstances, Veeco may redeem the rights in whole, but not in part, at a price of $0.01 per right (payable in cash, common stock or other consideration deemed appropriate by the Veeco board of directors). Immediately upon the action of the Veeco board of directors ordering redemption of the rights, the rights will terminate and the only right of the holders of rights will be to receive the $0.01 redemption price.

FEI. FEI does not have a shareholder rights plan in place.

EXPERTS

Ernst & Young LLP, independent auditors, have audited Veeco's consolidated financial statements and schedule included in Veeco's Annual Report on Form 10-K for the year ended December 31, 2001, as set forth in their report, which is incorporated by reference in this joint proxy statement/prospectus and which is based in part on the report of PriceWaterhouseCoopers LLP, independent auditors. Veeco's consolidated financial statements and schedule are incorporated by reference 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 and subsidiaries as of and for the years ended December 31, 2000 and 1999, incorporated by reference in this joint proxy statement/prospectus to Veeco's Amendment No. 3 to its Current Report on Form 8-K/A filed with the SEC on November 30, 2001, have been audited by Deloitte & Touche LLP, independent auditors, as stated in their report, incorporated by reference herein, and has been incorporated in reliance upon the report of such firm given upon their authority as experts in accounting and auditing.

The financial statements and financial statement schedule incorporated by reference in this joint proxy statement/prospectus from FEI Company's annual report on Form 10-K for the year ended December 31, 2001 have been audited by Deloitte & Touche LLP, independent auditors, as stated in its reports, which are incorporated by reference herein and have been so incorporated in reliance upon the reports of such firm given upon its authority as an expert in accounting and auditing.

LEGAL MATTERS

Kaye Scholer LLP will provide a legal opinion as to the legality of the shares of Veeco common stock offered under this joint proxy statement/prospectus. Kaye Scholer LLP will pass upon certain federal income tax consequences of the merger. Wilson Sonsini Goodrich & Rosati, Professional Corporation, will pass upon certain federal income tax consequences of the merger.

DOCUMENTS INCORPORATED BY REFERENCE IN THIS JOINT PROXY STATEMENT/PROSPECTUS

This joint proxy statement/prospectus incorporates documents by reference which are not presented in or delivered with it.

All documents filed by Veeco and FEI under Section 13(a), 13(c), 14 or 15(d) of the Securities Exchange Act of 1934, after the date of this joint proxy statement/prospectus and before the Effective Date, are incorporated by reference into this joint proxy statement/prospectus and will constitute a part of this joint proxy statement/prospectus from the date of filing of those documents.

You should rely only on the information contained in this joint proxy statement/prospectus or information to which we have referred you. Neither FEI nor Veeco has authorized anyone to provide you with information that is different.

Veeco filed the Veeco registration statement on Form S-4 to register with the SEC the shares of Veeco common stock to be issued to FEI shareholders in the merger. This joint proxy statement/prospectus is a part of that registration statement and constitutes a prospectus of Veeco, as well as a proxy statement of Veeco and FEI for both the Veeco special meeting of stockholders and the FEI special meeting of shareholders.

As allowed by the rules of the Securities and Exchange Commission, this joint proxy statement/prospectus does not contain all the information you can find in the Veeco registration statement or the exhibits to the registration statement. The Securities and Exchange Commission allows us to "incorporate by reference" information into this joint proxy statement/prospectus, which means that we can disclose important information to you by referring you to another document filed separately with the Securities and Exchange Commission. The information incorporated by reference is deemed to be part of this joint proxy statement/prospectus. This joint proxy statement/prospectus incorporates by reference the documents set forth below that Veeco and FEI have previously filed with the Securities and Exchange Commission. These documents contain important information about Veeco and FEI and their respective financial conditions.

VEECO SEC FILINGS	PERIOD, FILING OR EFFECTIVE DATE
Annual Report on Form 10-K	Year ended December 31, 2001, filed on March 27, 2002
Quarterly Reports on Form 10-Q	Three months ended March 31, 2002, filed on May 9, 2002
Reports on Form 8-K	Filed on July 12, 2002, September 14, 2001 and September 21, 2001
Reports on Form 8-K/A	Filed on July 22, 2002, October 1, 2001, October 2, 2001 and November 30, 2001
Registration Statement on Form 8-A	Effective on November 29, 1994
Registration Statement on Form 8-A	Effective on March 15, 2001
Registration Statement on Form 8-A/A	Effective on September 21, 2001
Registration Statement on Form 8-A/A	Effective on August 8, 2002

FEI SEC FILINGS	PERIOD, FILING OR EFFECTIVE DATE
Annual Report on Form 10-K	Year ended December 31, 2001, filed on April 1, 2002
Quarterly Report on Form 10-Q	Three months ended March 31, 2002, filed on May 15, 2002
Report on Form 8-K	Filed on July 15, 2002
Registration Statement on Form 8-A	Effective on May 31, 1995

Veeco has supplied all information contained or incorporated by reference in this joint proxy statement/prospectus relating to Veeco, and FEI has supplied all such information relating to FEI.

All documents subsequently filed by FEI or Veeco pursuant to Sections 13(a), 13(c), 14, or 15(d) of the Securities Exchange Act of 1934, prior to the date on which the latest to occur of the FEI special meeting of shareholders or Veeco special meeting of stockholders is to be held, shall be deemed to be incorporated by reference into this joint proxy statement/prospectus.

To the extent that any statement in this joint proxy statement/prospectus is inconsistent with any statement that is incorporated by reference, the statement in this joint proxy statement/prospectus will control. The incorporated statement will not be deemed, except as modified or superseded, to be a part of this joint proxy statement/prospectus or the registration statement of which this joint proxy statement/prospectus is a part.

WHERE YOU CAN FIND MORE INFORMATION

This joint proxy statement/prospectus incorporates important business and financial information about Veeco and FEI that has not been included or delivered with this prospectus. The documents incorporated by reference into this joint proxy statement/prospectus are available from Veeco or FEI upon request. We will provide to you without charge, upon your written or oral request, a copy of all of the information that is incorporated by reference in this joint proxy statement/prospectus, except for exhibits, unless the exhibits are specifically incorporated by reference into this joint proxy statement/prospectus. **You should make any request for documents by , 2002 to ensure timely delivery of the documents.**

Reports, proxy statements and other information regarding FEI or Veeco may be inspected at:

The National Association of Securities Dealers
1735 K Street, N.W.
Washington, DC 20006

Requests for documents relating to Veeco should be directed to either:

Georgeson Shareholder Communications Inc.
17 State Street, 28th Floor
New York, NY 10004
(212) 805-7000

or

Veeco Instruments Inc.
Investor Relations
100 Sunnyside Boulevard
Woodbury, NY 11797
(516) 677-0200, Ext. 1403

Requests for documents relating to FEI should be directed to either:

Georgeson Shareholder Communications Inc.
17 State Street, 28th Floor
New York, NY 10004
(212) 805-7000

or

FEI Company
Investor Relations
7451 NW Evergreen Parkway
Hillsboro, OR 97124
(503) 640-7500, Ext. 7527

Veeco and FEI each file reports, proxy statements and other information with the Securities and Exchange Commission. Copies of these reports, proxy statements and other information may be read and copied at the public reference facilities maintained by the Securities and Exchange Commission at:

Judiciary Plaza	Citicorp Center
Room 1204	500 West Madison Street
450 Fifth Street, N.W.	Suite 1400
Washington, D.C. 20549	Chicago, Illinois 60661

Copies of these materials can also be obtained by mail at prescribed rates from the Public Reference Section of the Securities and Exchange Commission, 450 Fifth Street, N.W., Washington, D.C., 20549 or by calling the Securities and Exchange Commission at 1-800-SEC-0330. You may obtain information on the operations of the Public Reference Room by calling the Securities and Exchange Commission at 1-800-SEC-0330. The Securities and Exchange Commission also maintains an Internet site that contains reports, proxy and information statements and other information regarding each of us. The address of this website is http://www.sec.gov. Veeco has filed a registration statement on Form S-4 under the Securities Act of 1933, as amended, with the Securities and Exchange Commission with respect to Veeco common stock to be issued to FEI shareholders in the merger. This joint proxy statement/prospectus constitutes the prospectus of Veeco filed as part of that registration statement on Form S-4. This joint proxy statement/prospectus does not contain all of the information set forth in that registration statement on Form S-4 because some parts of the registration statement are omitted as permitted by the rules and regulations of the Securities and Exchange Commission. You may inspect and copy Veeco's registration statement on Form S-4 and its exhibits at any of the addresses listed above.

OTHER MATTERS

Deadline for Veeco Annual Meeting Proxy Proposals

Veeco stockholder proposals intended to be included in the proxy statement and form of proxy for Veeco's annual meeting of stockholders to be held in 2003, in addition to meeting certain eligibility requirements established by the Securities and Exchange Commission, must be in writing and received by the Secretary of Veeco at Veeco's principal executive offices on or before December 13, 2002. Alternate notice deadlines apply if the date of Veeco's annual meeting differs by more than 30 days from the date of the previous year's annual meeting.

Deadline for FEI Annual Meeting Proxy Proposals

As a result of the merger, FEI does not anticipate holding its 2003 annual meeting of shareholders. If such meeting is held, FEI shareholder proposals intended to be included in the proxy statement and form of proxy for FEI's annual meeting of shareholders to be held in 2003, in addition to meeting certain eligibility requirements established by the Securities and Exchange Commission, must be in writing and received by the Secretary of FEI at FEI's principal executive offices on or before December 16, 2002. If notice of a shareholder proposal to be raised at FEI's 2003 annual shareholders meeting is received at the principal executive offices of FEI after March 1, 2003 (45 days before the month and date in 2002 corresponding to the date on which FEI mailed its proxy materials for the 2002 annual meeting), such proposal will be considered untimely. Alternate notice deadlines apply if the date of FEI's annual meeting differs by more than 30 days from the date of the previous year's annual meeting.

This joint proxy statement/prospectus does not constitute an offer to sell, or solicitation of an offer to purchase, the Veeco common stock or the solicitation of a proxy, in any jurisdiction to or from any person to whom or from whom it is unlawful to make the offer, solicitation of an offer or proxy solicitation in that jurisdiction. Neither the delivery of this joint proxy statement/prospectus nor any distribution of securities means, under any circumstances, that there has been no change in the information contained in or incorporated by reference in this joint proxy statement/prospectus or in Veeco's or FEI's affairs since the date of this joint proxy statement/prospectus. The information contained in this joint proxy statement/prospectus with respect to FEI and its subsidiaries was provided by FEI and the information contained in this joint proxy statement/prospectus with respect to Veeco and its subsidiaries was provided by Veeco.

Appendix A

AGREEMENT AND PLAN OF MERGER

AMONG

VEECO INSTRUMENTS INC.,

VENICE ACQUISITION CORP.

AND

FEI COMPANY

July 11, 2002

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AGREEMENT AND PLAN OF MERGER

This AGREEMENT AND PLAN OF MERGER (this "Merger Agreement") is made as of July 11, 2002, by and among Veeco Instruments Inc., a Delaware corporation ("Veeco"), Venice Acquisition Corp., an Oregon corporation and a wholly owned subsidiary of Veeco ("Acquisition"), and FEI Company, an Oregon corporation ("FEI").