

THORATEC CORP
Form 424B3
June 09, 2005

Table of Contents

Prospectus under Rule 424(b)(3) of the Securities Act of 1933, relating to Registration No. 333-118274.

**\$247,427,000 Principal Amount at Maturity of
Senior Subordinated Convertible Notes due 2034
and
Shares of Common Stock
Issuable upon Conversion of the Notes**

We originally issued these notes in private placement transactions in May 2004. This prospectus will be used by selling securityholders to resell their notes and the common stock issuable upon conversion of the notes.

We issued the notes at an issue price of \$580.98 per note (58.098% of the principal amount at maturity). Interest on the notes accruing at the rate of 1.3798% per year on the principal amount at maturity (equivalent to a rate of 2.375% per year of the issue price), is payable semiannually in arrears in cash on May 16 and November 16 of each year, beginning November 16, 2004, until May 16, 2011. After that date, we will not pay cash interest on the notes prior to maturity. Instead, on May 16, 2034, the maturity date of the notes, a holder will receive \$1,000 per note. The original issue discount for non-tax purposes will accrue daily at a rate of 2.375% per year beginning on May 16, 2011 on a semiannual bond equivalent basis using a 360-day year comprised of twelve 30-day months. We purchased a portfolio of U.S. government securities that we pledged to secure the first six scheduled interest payments on the notes. Other than this pledge of U.S. government securities, the notes are unsecured, senior subordinated obligations and rank equally with our future senior subordinated indebtedness, if any, will rank junior to our existing and future senior indebtedness, and will effectively rank junior to the existing or future indebtedness of our subsidiaries.

Holders may convert each \$1,000 principal amount of their notes into 29.4652 shares of our common stock, subject to adjustment, only if: (1) the sale price of our common stock reaches, or the trading price of the notes falls below, specified thresholds, (2) the notes are called for redemption, or (3) specified corporate transactions or significant distributions to holders of our common stock have occurred. Upon a conversion, we may elect to deliver cash or a combination of cash and common stock in lieu of any common stock deliverable upon conversion.

Holders may require us to purchase for cash all or a portion of their notes on May 16, 2011 at a price of \$580.98 per note, on May 16, 2014 at a price of \$623.62 per note, on May 16, 2019 at a price of \$701.77 per note, on May 16, 2024 at a price of \$789.70 per note, and on May 16, 2029 at a price of \$888.65 per note, in each case plus accrued but unpaid interest, if any. In addition, if we experience a fundamental change as described in this prospectus, each holder may require us to repurchase all or a portion of its notes, subject to specified exceptions, at a price equal to the sum of the issue price, accrued original issue discount and accrued but unpaid cash interest and liquidated damages, if any, plus in certain circumstances, a make-whole premium. Upon a fundamental change, we may pay the repurchase price in cash or, in certain circumstances, we may choose to pay the repurchase price in shares of our common stock or a combination of cash and shares of our common stock.

Table of Contents

We may redeem for cash all or a portion of the notes at any time on or after May 16, 2011, at a price equal to the sum of the original issue price, the accrued original issue discount and accrued but unpaid cash interest, if any, to the redemption date.

Since their original issuance, the notes and the shares of common stock issuable upon conversion of the notes have been eligible for trading in the Private Offerings, Resales and Trading through Automated Linkages (PORTAL) system of the National Association of Securities Dealers, Inc. However, notes sold by means of this prospectus and the shares of common stock issuable upon conversion thereof will no longer be eligible for trading on the PORTAL Market. We do not intend to list the notes on any other automated quotation system or any securities exchange. Our common stock currently trades on the NASDAQ National Market under the symbol THOR. On June 2, 2005, the last reported sale price of our common stock on the NASDAQ National Market was \$14.61 per share.

The selling securityholders will receive all of the net proceeds from sales of the securities and will pay all underwriting discounts and selling commissions, if any. We are responsible for the payment of other expenses incident to the registration of the securities. We will not receive any proceeds from this offering.

Investing in the notes and the common stock issuable upon conversion of the notes involves risks that are described in the Risk Factors section beginning on page 6 of this prospectus.

Neither the Securities and Exchange Commission nor any state securities commission has approved or disapproved of these securities or passed upon the adequacy or accuracy of this prospectus. Any representation to the contrary is a criminal offense.

The date of this prospectus is June 8, 2005.

TABLE OF CONTENTS

	Page
<u>Market And Industry Data</u>	ii
<u>Special Note Regarding Forward-Looking Statements</u>	ii
<u>Summary</u>	1
<u>Risk Factors</u>	6
<u>Use Of Proceeds</u>	19
<u>Ratio Of Earnings To Fixed Charges</u>	19
<u>Description of Notes</u>	19
<u>Description of Capital Stock</u>	43
<u>Material United States Federal Income Tax Considerations</u>	45
<u>Selling Securityholders</u>	52
<u>Plan of Distribution</u>	62
<u>Legal Matters</u>	64
<u>Experts</u>	64
<u>Where You Can Find More Information</u>	64
<u>Incorporation Of Certain Documents By Reference</u>	65

You should rely only on the information contained or incorporated by reference in this prospectus. We have not authorized any other person to provide you with different information. If anyone provides you with

different or inconsistent information, you should not rely on it. You should assume that the information appearing in this prospectus and the documents incorporated in this prospectus by reference are accurate only as of their respective dates. Our business, financial condition, results of operations and prospects may have changed since those dates.

References in this prospectus to Thoratec, we, us and our refer to Thoratec Corporation, a company incorporated in the State of California, and its direct and indirect subsidiaries, unless the context otherwise requires or otherwise specified in this prospectus.

Thoratec, the Thoratec logo, Thoralon, TLC-II, HeartMate, HeartPak and Vectra are registered trademarks, and Aria is a trademark, of Thoratec Corporation. HEMOCHRON, ProTime, Surgicutt, Tenderlett, tenderfoot and IRMA are registered trademarks of International Technidyne Corporation, or ITC, our wholly-owned subsidiary. Each trademark, trade name or service mark of any other company appearing in this prospectus belongs to its holder.

MARKET AND INDUSTRY DATA

Market data used throughout this prospectus and the documents incorporated by reference herein, including information relating to our relative position in the medical device industry, is based on the good faith estimates of our management, which estimates are based upon their review of internal surveys, independent industry publications and other publicly available information. Although we believe these sources are reliable, we do not guarantee the accuracy or completeness of this information and we have not independently verified this information. Although we are not aware of any misstatements regarding the market and industry data presented in this prospectus, our estimates involve risks and uncertainties and are subject to change based on various factors, including those discussed under the heading Risk Factors.

SPECIAL NOTE REGARDING FORWARD-LOOKING STATEMENTS

This prospectus and the documents incorporated by reference herein include forward-looking statements. For these statements, we claim the protection of the safe harbor for forward looking statements provided by Section 27A of the Securities Act of 1933, as amended, and 21E of the Securities Exchange Act of 1934, as amended. We

Table of Contents

have based these forward-looking statements on our current expectations and projections about future events. Our actual results could differ materially from those discussed in, or implied by, these forward-looking statements. Forward-looking statements are identified by words such as believe, anticipate, expect, intend, plan, may, or other similar expressions. In addition, any statements that refer to expectations, projections or other characterizations of future events or circumstances are forward-looking statements. Forward-looking statements include, but are not necessarily limited to, those relating to:

our ability to obtain and maintain regulatory approval of our products for sale in the United States and internationally;

the results and timing of our clinical trials;

reimbursement policies and decisions by government agencies and third party payors;

other competing therapies that may currently, or in the future, be available to heart failure patients;

our plans to develop and market new products and the rate of market penetration of our new products; and

our ability to improve our financial performance.

Factors that could cause actual results or conditions to differ from those anticipated by these and other forward-looking statements include those more fully described in the Risk Factors section of this prospectus and in the Competition, Patents and Proprietary Technology, Government Regulation, Factors That May Affect Future Results, Results of Operations, Qualitative and Quantitative Disclosures About Market Risk, and Liquidity and Capital Resources sections contained in our Annual Report on Form 10-K for the fiscal year ended January 1, 2005 and our Quarterly Report on Form 10-Q for the quarter ended April 2, 2005 and our other SEC filings, which identify important risks and uncertainties that could cause actual results to differ materially from those contained in the forward-looking statements and in other documents we file with the SEC. We are not obligated to update or revise these forward-looking statements to reflect new events or circumstances.

We urge you to consider these factors carefully in evaluating the forward-looking statements contained in this prospectus. All subsequent written or oral forward-looking statements attributable to our company or persons acting on our behalf are expressly qualified in their entirety by these cautionary statements. The forward-looking statements included in this prospectus are made only as of the date of this prospectus. We do not intend, and undertake no obligation, to update these forward-looking statements.

Table of Contents

SUMMARY

Overview

We are a leading manufacturer of circulatory support products for use by patients with congestive heart failure, or CHF. Our Ventricular Assist Devices, or VADs, are used primarily by CHF patients to perform some or all of the pumping function of the heart and we currently offer the widest range of products to serve this market. We believe that our long-standing reputation for quality and innovation and our excellent relationships with leading cardiovascular surgeons worldwide position us to capture growth opportunities in the expanding congestive heart failure market. Through our wholly-owned subsidiary, ITC, we design, develop, manufacture and market point-of-care diagnostic test systems and incision products that provide for fast, accurate blood test results to improve patient management, reduce healthcare costs and improve patient outcomes.

Our business is comprised of two segments; Cardiovascular and ITC.

The major product lines within the Cardiovascular segment are:

Circulatory Support Products. Our circulatory support products include VADs for the short-term and long-term treatment of congestive heart failure.

Vascular Graft Products. We have developed small diameter grafts using our proprietary materials to address the vascular access market. Our grafts are sold in the United States and internationally for use in hemodialysis.

The major product lines of our ITC segment are:

Point-of-Care Diagnostics. Our point-of-care products include coagulation diagnostic test systems that monitor a patient while being administered certain anticoagulants, blood gas/electrolyte and chemistry status, or anemia.

Incision. Our incision products include devices used to obtain a patient's blood sample for diagnostic testing and screening for platelet function.

We currently market VADs that may be implanted or worn outside the body and that are suitable for treatments for different durations for patients of varying sizes and ages. We estimate that doctors have implanted over 9,500 of our devices in patients suffering from heart failure. Our devices are currently used primarily for patients awaiting a heart transplant or Destination Therapy implants. On November 6, 2002, the United States Food and Drug Administration, or FDA, approved the HeartMate VAD as the first heart assist device for Destination Therapy, or permanent support for patients suffering from end-stage heart failure who are not eligible for heart transplantation. On April 7, 2003, the FDA approved the HeartMate XVE, an enhanced version of the HeartMate VAD, for Destination Therapy. Thoratec is the only company to have a ventricular assist device approved for Destination Therapy in the United States. In August 2004, we received FDA approval in the U.S. to market the Thoratec Implantable Ventricular Assist Device, or IVAD, for use in bridge-to-transplantation and post-cardiotomy recovery patients who are unable to be weaned from cardiopulmonary bypass. This makes the IVAD the only currently approved implantable cardiac assist device that can provide left, right or biventricular support.

Corporate Information

We were incorporated in California in March 1976. On February 14, 2001, we changed our name from Thoratec Laboratories Corporation to Thoratec Corporation. Our executive offices are located at 6035 Stoneridge Drive, Pleasanton, California 94588, and our telephone number is (925) 847-8600. Our website address is

<http://www.thoratec.com>. The information found on our website and on websites linked from it are not incorporated into or otherwise made a part of this prospectus.

The Offering

The following is a brief summary of certain terms of this offering. For a more complete description of the

Table of Contents

terms of the notes, see Description of Notes in this prospectus.

Issuer	Thoratec Corporation, a California corporation.
Notes offered	\$247,427,000 aggregate principal amount at maturity of senior subordinated convertible notes due 2034. Each note will have a principal amount at maturity of \$1,000 and was issued at a price of \$580.98 per note (58.098% of the principal amount at maturity).
Maturity	May 16, 2034.
Cash interest	1.3798% per year on the principal amount at maturity (equivalent to a rate of 2.375% per year on the issue price), payable semiannually in arrears in cash on May 16 and November 16 of each year, beginning November 16, 2004 until May 16, 2011.
Original issue discount	We issued the notes at an issue price significantly below the principal amount at maturity of the notes. As a result, the original issue discount, for non-tax purposes, will accrue daily at a rate of 2.375% per year beginning on May 16, 2011, calculated on a semiannual bond equivalent basis using a 360-day year comprised of twelve 30-day months.
Security	We purchased and pledged to the trustee under the indenture for the exclusive benefit of the holders of the notes approximately \$9.8 million of U.S. government securities, which we expect will be sufficient, upon receipt of scheduled principal and interest payments thereon, to provide for payment in full of the first six scheduled interest payments, but not liquidated damages, if any, on the notes when due. The notes will not otherwise be secured.
Conversion rights	If the conditions for conversion are satisfied, for each \$1,000 principal amount at maturity of notes surrendered for conversion you will receive 29.4652 shares of our common stock, which we refer to in this prospectus as the conversion rate. In lieu of delivering shares of our common stock upon notice of conversion of all or any portion of the notes, we may elect to pay holders surrendering notes an amount in cash per note (or a portion of a note) equal to the average sale price of our common stock for the five consecutive trading days immediately following (a) the date of our notice of our election to deliver cash if we have not given notice of redemption or (b) the conversion date, in the case of conversion following our notice of redemption specifying that we intend to deliver cash upon conversion, in either case multiplied by the conversion rate in effect on that date. If an event of default (other than a default in a cash payment upon conversion of the notes) has occurred and is continuing, we may not pay cash upon conversion of

any notes or portion of the notes (other than cash for fractional shares). A holder of a note otherwise entitled to a fractional share will receive cash equal to the applicable portion of the closing price of our common stock on the trading day immediately preceding the conversion date.

The conversion rate may be adjusted for certain reasons, but will not be adjusted for accrued original issue discount or accrued but unpaid cash interest. Upon conversion, a holder will not receive any cash payment representing accrued but unpaid cash interest. Instead, accrued but unpaid cash interest will be deemed paid upon payment of the conversion price in

Table of Contents

cash or a combination of cash and common stock.

At any time after September 30, 2004, holders may surrender notes for conversion, if, as of the last day of the preceding calendar quarter, the closing sale price of our common stock for at least 20 trading days in a period of 30 consecutive trading days ending on the last trading day of such preceding calendar quarter is more than 120% of the accreted conversion price per share of common stock on the last day of such preceding calendar quarter for any one quarter. If the foregoing condition is satisfied, then the notes will thereafter be convertible at any time at the option of the holder, through maturity. The accreted conversion price per share as of any day will equal the sum of the issue price of the note plus the accrued original issue discount to that day, divided by the then applicable conversion rate.

Holders may surrender notes for conversion at any time on or prior to May 16, 2029 during the five business day period after any five consecutive trading day period in which the trading price per note for each day of that period was less than 98% of the product of the closing sale price of our common stock and the conversion rate on each such day; provided that if on the day prior to any conversion pursuant to this trading price condition the closing sale price of our common stock is greater than the accreted conversion price but less than or equal to 120% of the accreted conversion price, then holders will receive upon conversion, in lieu of shares of common stock based on the conversion rate, cash or common stock or a combination of cash and common stock at our option with a value equal to the accreted principal amount of the notes plus accrued and unpaid cash interest and liquidated damages, if any, as of the conversion date.

Notes or portions of notes in integral multiples of \$1,000 principal amount at maturity called for redemption may be surrendered for conversion until the close of business on the second business day prior to the redemption date. In addition, if we make a significant distribution to our shareholders or if we are a party to certain consolidations, mergers or share exchanges, notes may be surrendered for conversion, as provided in Description of Notes Conversion Rights.

Redemption of notes at our option

We may redeem, for cash, all or a portion of the notes at any time on or after May 16, 2011, at a price equal to the sum of the issue price and the accrued original issue discount, plus accrued and unpaid cash interest, if any, to the redemption date. See Description of Notes Redemption of Notes at Our Option.

Purchase of the notes by Thoratec at the option of the holder

Holders may require us to purchase all or a portion of their notes on each of the following dates at the following prices, plus accrued but unpaid cash interest, if any, to the purchase date:

On May 16, 2011 at a price of \$580.98 per note;

On May 16, 2014 at a price of \$623.62 per note;

On May 16, 2019 at a price of \$701.77 per note;

On May 16, 2024 at a price of \$789.70 per note; and

On May 16, 2029 at a price of \$888.65 per note.

3

Table of Contents

We may only pay the purchase price in cash and not in common stock.

Fundamental Change

If we undergo a fundamental change (as described in this prospectus), except in certain circumstances, you will have the option to require us to repurchase all or any portion of your notes. The fundamental change repurchase price will be the sum of the issue price and accrued original issue discount plus accrued but unpaid cash interest and liquidated damages, if any, plus, in certain circumstances, a make-whole premium. Upon a fundamental change we may pay the repurchase price in cash or, in certain circumstances, we may choose to pay the repurchase price in shares of our common stock or a combination of cash and shares of our common stock.

Ranking

The notes:

are our general senior subordinated unsecured obligations (except as set forth in
Description of Notes Security);

4

Table of Contents

does not become effective within the specified time periods. See Description of Notes Registration Rights.

Guarantees

None.

Sinking fund

None.

DTC eligibility

The notes were issued in fully registered book-entry form and are represented by one or more permanent global notes without coupons. Global notes were deposited with a custodian for and registered in the name of a nominee of The Depository Trust Company (DTC) in New York, New York. Beneficial interests in global notes will be shown on, and transfers thereof will be effected only through, records maintained by DTC and its direct and indirect participants, and your interest in any global note may not be exchanged for certificated notes, except in the limited circumstances described herein. See Description of Notes Global Notes; Book Entry; Form.

Trading

Since their initial issuance, the notes have been eligible for trading in the PORTAL Market of the National Association of Securities Dealers, Inc. However, notes sold by means of this prospectus will no longer be eligible for trading on the PORTAL Market. We do not intend to list the notes on any other automated quotation system or any securities exchange. Furthermore, we can provide no assurances as to the liquidity of, or trading market for, the notes.

NASDAQ symbol for our common stock

Our common stock is listed on the NASDAQ National Market under the symbol THOR.

Risk factors

See Risk Factors beginning on page 6 of this prospectus and other information included in, or incorporated by reference into, this prospectus for a discussion of factors you should consider carefully before deciding to invest in the notes.

Table of Contents

RISK FACTORS

Our business faces many risks. The risks described below are what we believe to be the material risks facing our company and holders of the notes. However, the risks described below may not be the only risks we face. Additional risks that we do not yet know of or that we currently believe are immaterial may also impair our business operations. If any of the events or circumstances described in the following risk factors actually occurs, our business, financial condition or results of operations could suffer, and the trading price of our common stock or the notes offered hereby could decline significantly. You should consider the following risks, as well as the other information included in and incorporated by reference into this prospectus before deciding to invest in the notes.

Risks Related to Our Business

We have a history of net losses.

We were founded in 1976 and we have a history of incurring losses from operations. We anticipate that our expenses will increase as a result of increased pre-clinical and clinical testing, research and development and selling, general and administrative expenses. We could also incur significant additional costs in connection with our business development activities and the development and marketing of new products and indicated uses for our existing products as well as litigation and equity based compensation costs. Such costs could prevent us from achieving or maintaining profitability in future periods.

Since our physician and hospital customers depend on third party reimbursement, if third party payors fail to provide appropriate levels of reimbursement for our products, our results of operations will be harmed.

Significant uncertainty exists as to the reimbursement status of newly approved health care products such as VADs and vascular grafts, which uncertainty can delay or prevent adoption in volume by hospitals. Government and other third party payors are increasingly attempting to contain health care costs. Payors are attempting to contain costs by, for example, limiting coverage and the level of reimbursement of new therapeutic products. Payors are also attempting to contain costs by refusing, in some cases, to provide any coverage for uses of approved products for disease indications other than those for which the FDA has granted marketing approval.

To date, a majority of private insurers with whom we have been involved and the Centers for Medicare & Medicaid Services, or the CMS, have determined to reimburse some portion of the cost of our VADs and our diagnostic and vascular graft products, but we cannot estimate what portion of such costs will be reimbursed and our products may not continue to be approved for reimbursement. In addition, changes in the health care system may affect the reimbursability of future products. If coverage is not expanded or if the reimbursement levels are not increased or are partially or completely reduced, our revenues would be reduced.

If we fail to obtain approval from the FDA and from foreign regulatory authorities, we cannot market and sell our products under development in the United States and in other countries, and if we fail to adhere to ongoing FDA Quality System Regulations, the FDA may withdraw our market clearance or take other action.

Before we can market new products in the United States, we must obtain clearance from the FDA. This process is lengthy and uncertain. In the United States, one must obtain clearance from the FDA of a 510(k) pre-market notification or approval of a more extensive submission known as a pre-market approval, or PMA, application. If the FDA concludes that any of our products does not meet the requirements to obtain clearance under Section 510(k) of the Federal Food, Drug, and Cosmetic Act, then we would be required to file a PMA application. The process for a PMA application is lengthy, expensive and typically requires extensive pre-clinical and clinical trial data.

We may not obtain clearance of a 510(k) notification or approval of a PMA application with respect to any of our products on a timely basis, if at all. If we fail to obtain timely clearance or approval for our products, we will not be able to market and sell our products, thereby harming our ability to generate sales. The FDA may also limit the claims that we can make about our products. We may also be required to obtain clearance of a 510(k) notification or PMA Supplement from the FDA before we can market products that have been cleared, but we have since modified or that

Table of Contents

we subsequently wish to market for new disease indications.

The FDA also requires us to adhere to Quality System Regulations, which include production design controls, testing, quality control, storage and documentation procedures. The FDA may at any time inspect our facilities to determine whether we have adequate compliance. Compliance with Quality System Regulations for medical devices is difficult and costly. In addition, we may not be found to be compliant as a result of future changes in, or interpretations of, regulations by the FDA or other regulatory agencies. If we do not achieve compliance, the FDA may withdraw marketing clearance, require product recall or take other enforcement action, which in each case would harm our business. Any change or modification to a device is required to be made in compliance with Quality System Regulations, which compliance may cause interruptions or delays in the marketing and sale of our products. The FDA also requires device manufacturers to submit reports regarding deaths, serious injuries and certain malfunctions relating to use of their products.

Sales of our products outside the United States are subject to foreign regulatory requirements that vary from country to country. The time required to obtain approvals from foreign countries may be longer or shorter than that required for FDA approval, and requirements for foreign licensing may differ from FDA requirements.

The federal, state and foreign laws and regulations regarding the manufacture and sale of our products are subject to future changes, as are administrative interpretations and policies of regulatory agencies. If we fail to comply with applicable federal, state or foreign laws or regulations, we could be subject to enforcement actions. Enforcement actions could include product seizures, recalls, withdrawal of clearances or approvals, and civil and criminal penalties, which in each case would harm our business.

Certain lawsuits have been filed against us.

Commencing on or about August 3, 2004, several Federal securities law putative class action suits were filed in the United States District Court for the Northern District of California on behalf of purchasers of the publicly traded securities of the Company between April 28, 2004 and June 29, 2004. These suits were consolidated in a consolidated complaint filed on or about January 18, 2005. The complaint seeks to recover unspecified damages on behalf of all purchasers of our publicly traded securities during the class period.

On or about September 1, 2004, a shareholder derivative action entitled *Wong v. Grossman* was filed in the California Superior Court for Alameda County based upon essentially the same facts as the Federal securities suit. This action names the individual members of our Board of Directors, our Chief Executive Officer and our former Chief Financial Officer as defendants.

In June of 2004, MicroMed Technology, Inc., a potential competitor of ours, sued us in Texas. MicroMed sought injunctive relief against us in connection with our HeartMate II Phase I clinical trial on the grounds that we had provided the HeartMate II VAD to clinical sites without charge and that doing so was a violation of Texas anti-trust law. In addition to injunctive relief, the plaintiff is seeking unspecified damages and fees, including those arising from potential sales of its VAD products which plaintiff alleges it lost due to our HeartMate II clinical trial. We have successfully defended ourselves against MicroMed's requests for injunctive relief and will continue to vigorously defend any and all of the claims made by MicroMed in this action.

We believe that the claims asserted in the MicroMed action, and both the Federal securities law putative class action and the state shareholder derivative action are without merit. We have filed a motion to dismiss in the Federal securities law putative class action and the shareholder suit currently is stayed through to at least early July 2005.

We are unable to predict at this time the final outcome of these actions.

We carry sufficient insurance to cover what management believes to be any reasonable exposure on these actions; however, we cannot give assurance that our insurance will cover all costs or other exposures we may incur with respect to these actions.

Table of Contents

If hospitals do not conduct Destination Therapy procedures using our VAD, our product sales will be diminished.

The use of our VADs as long-term therapy in patients who are not candidates for heart transplantation (i.e., they are Destination Therapy patients) was approved by the FDA in 2002, and was approved for reimbursement by the CMS in late 2003.

The number of Destination Therapy procedures actually performed depends on many factors, most of which are out of our direct control, including:

the number of CMS sites approved for Destination Therapy;

the clinical outcomes of Destination Therapy procedures;

cardiologists and referring physicians' education, and their commitment to Destination Therapy;

the economics of the Destination Therapy procedure for individual hospitals, which include the costs of the VAD and related pre- and post-operative procedures and their reimbursement;

the impact of changes in reimbursement rates on the timing of purchases of VADs for Destination Therapy; and

the economics for individual hospitals of not conducting a Destination Therapy procedure, including the costs and related reimbursements of long-term hospitalization.

The different outcomes of these and other factors, and their timing, will have a significant impact on our future operating results. Sales of our VADs for Destination Therapy have proved slower than we had originally anticipated, and we are unable to predict when, if ever, these sales will generate significant revenue for us.

The long and variable sales and deployment cycles for our VAD systems may cause our product sales and operating results to vary significantly, which increases the risk of an operating loss for any given fiscal period.

Our VAD systems have lengthy sales cycles and we may incur substantial sales and marketing expenses and expend significant effort without making a sale. Even after making the decision to purchase our VAD systems, our customers often deploy our products slowly. For example, the length of time between initial contact with cardiac surgeons and the purchase of our VAD systems is generally between nine and eighteen months. In addition, the cardiac centers that buy the majority of our products are usually led by cardiac surgeons who are heavily recruited by competing centers or by centers looking to increase their profiles. When one of these surgeons moves between centers we sometimes experience a temporary but significant reduction in purchases by the departed center while it replaces its lead surgeon. As a result, it is difficult for us to predict the quarter in which customers may purchase our VAD systems and our product sales and operating results may vary significantly from quarter to quarter, which increases the risk of an operating loss for us for any given quarter. In particular, sales of our VADs for Destination Therapy have been lower than we had originally anticipated, and we cannot predict when, if ever, sales of our VADs for this indication will generate the level of revenues we expect.

Physicians may not accept or continue to accept our current products and products under development.

The success of our current and future products will require acceptance or continued acceptance by cardiovascular and vascular surgeons, and other medical professionals. Such acceptance will depend on clinical results and the conclusion by these professionals that our products are safe, cost-effective and acceptable methods of treatment. Even if the safety and efficacy of our future products are established, physicians may elect not to use them

for a number of reasons. These reasons could include the high cost of our VAD systems, restrictions on coverage, unfavorable reimbursement from health care payors, or use of alternative therapies. Also, economic, psychological, ethical and other concerns may limit general acceptance of our ventricular assist, graft and other products.

Table of Contents

Our future product sales will be affected by the number of heart transplants conducted.

A significant amount of our current product sales is generated by our VADs implanted temporarily in patients awaiting heart transplants. The number of heart transplants conducted worldwide depends on the number of hearts available to transplant, which number in turn depends on the death rate of otherwise healthy people from events such as automobile accidents.

We have experienced rapid growth and changes in our business, and our failure to manage this and any future growth could harm our business.

The number of our employees has substantially increased during the past several years. We expect to continue increasing the number of our employees, and our business may suffer if we do not manage and train our new employees effectively. Our product sales may not continue to grow at a rate sufficient to support the costs associated with an increasing number of employees. Any future periods of rapid growth may place significant strains on our managerial, financial and other resources. The rate of any future expansion, in combination with our complex technologies and products, may demand an unusually high level of managerial effectiveness in anticipating, planning, coordinating and meeting our operational needs as well as the needs of our customers.

If we fail to successfully introduce new products, our future growth may suffer.

As part of our growth strategy, we intend to develop and introduce a number of new products and product improvements. We also intend to develop new indications for our existing products. For example, we are currently developing updated versions of our HeartMate products. If we fail to commercialize these new products, product improvements and new indications on a timely basis, or if they are not well accepted by the market, our future growth may suffer.

Amortization of our intangible assets, which represent a significant portion of our total assets, will adversely affect our net income and we may never realize the full value of our intangible assets.

A substantial portion of our assets are comprised of goodwill and purchased intangible assets. We may not receive the recorded value for our intangible assets if we sell or liquidate our business or assets. The material concentration of intangible assets increases the risk of a large charge to earnings if the revenue from, and recoverability of, these intangible assets is impaired. We completed an assessment of the current values of our intangible assets at the year ended 2004 and determined that no impairment exists, however the lives have been modified on several components of these identified assets. In the event, however, of such a charge to net income, the market price of our common stock could be adversely affected. For example, in the first quarter of 2004, we completed an assessment of the final results from the feasibility clinical trial for the Aria CABG graft, which was ongoing through fiscal 2003. Based on the clinical trial results, we determined not to devote additional resources to development of the Aria graft. Upon the decision to discontinue product development, we recorded an impairment charge of approximately \$9 million as of January 3, 2004 to write off purchased intangible assets related to the Aria graft, recorded as a result of our merger with TCA

We rely on specialized suppliers for certain components and materials in our products and alternative suppliers may not be available.

We depend on a number of custom-designed components and materials supplied by other companies including, in some cases, single source suppliers for components, instruments and materials used in our VAD products and blood testing products. For example, single sources currently manufacture and supply our ProTime and Hemoglobin instruments and the heart valves used in our HeartMate products. The suppliers of our ProTime and Hemoglobin

products are located in China and Germany, respectively. We do not have long-term written agreements with most of our vendors and from these vendors receive components on a purchase order basis

Table of Contents

only. If we need alternative sources for key raw materials or component parts for any reason, such alternative sources may not be available and our inventory may not be sufficient to fill orders before we find alternative suppliers or begin manufacturing these components or materials ourselves. Cessation or interruption of sales of circulatory support products or our point-of-care products would seriously harm our business, financial condition and results of operations.

Alternative suppliers, if available, may not agree to supply us. In addition, we may require FDA approval before using new suppliers or manufacturing our own components or materials. Existing suppliers could also become subject to an FDA enforcement action, which could also disrupt our supplies. If alternative suppliers are not available, we may not have the expertise or resources necessary to produce these materials or component parts internally.

Because of the long product development cycle in our business, suppliers may discontinue components upon which we rely before the end of life of our products. In addition, the timing of the discontinuation may not allow us time to develop and obtain FDA approval for a replacement component before we exhaust our inventory of the legacy component.

If suppliers discontinue components on which we rely, we may have to:

pay premium prices to our suppliers to keep their production lines open or to obtain alternative suppliers;

buy substantial inventory to last through the scheduled end of life of our product, or through such time that we will have a replacement product developed and approved by the FDA; or

stop shipping the product in which the legacy component is used once our inventory of the discontinued component is exhausted.

Any of these interruptions in the supply of our materials could result in substantial reductions in product sales and increases in our production costs.

If we fail to compete successfully against our existing or potential competitors, our product sales or operating results may be harmed.

Competition from medical device companies and medical device subsidiaries of health care and pharmaceutical companies is intense and is expected to increase. Principal competitors for the VAD system include WorldHeart Corporation, MicroMed Technology, Inc., Abiomed, Inc., and Berlin Heart in Europe. Principal competitors in the vascular graft market include W.L. Gore, Inc., C.R. Bard Corporation, which is also a distributor of our *Vectra* product line, and Boston Scientific Corporation. Principal competitors in the hospital coagulation and blood gas monitoring equipment market include the Cardiac Surgery Division of Medtronic, Inc., iSTAT, Radiometer, Abbott Diagnostics, and Instrument Laboratories. Our primary competitor in the skin incision device market is Becton, Dickson and Company. Competitors in the alternate site (non-hospital) point-of-care diagnostics market include Roche Diagnostics and HemoSense.

Many of our competitors have substantially greater financial, technical, distribution, marketing and manufacturing resources than we have. Accordingly, our competitors may be able to develop, manufacture and market products more efficiently and at a lower cost than we can. We expect that the key competitive factors will include the relative speed with which we can:

develop products;

complete clinical testing;

receive regulatory approvals; and

manufacture and sell commercial quantities of products.

10

Table of Contents

Large medical device companies dominate the markets in which ITC competes. We expect that any growth in this market will come from expanding our market share at the expense of other companies, and from testing being shifted away from central laboratories to the point-of-care. However, this market segment is very competitive, and includes the following potential drivers:

New drug therapies under development may not require the intense monitoring of a patient's coagulation that the current anti-coagulation drug of choice (Heparin) requires.

New competitors might enter the market with broader test menus.

Any of the devices of our competitors in clinical trials and in development could prove to be clinically superior, easier to implant, and/or less expensive than current commercialized devices, thereby impacting Thoratec's marketshare.

We may encounter problems manufacturing our products.

We may encounter difficulties manufacturing our products. We do not have experience in manufacturing some of our products in the commercial quantities that might be required if we receive FDA approval of several or all of the products and indications currently under development, including the HeartMate II VAD. If we have difficulty manufacturing any of our products, our business will be harmed.

Since we depend upon distributors, if we lose a distributor or a distributor fails to perform, our operations may be harmed.

With the exception of Canada and the larger countries in Europe, we sell our Thoratec VAD and HeartMate systems in foreign markets through distributors. In addition, we sell our vascular access graft products through the Bard Peripheral Vascular division of C.R. Bard Corporation (which is also a competitor of ours) in the United States, and selected countries in Europe, the Middle East and Northern Africa and through Goodman Co. Ltd. in Japan. Substantially all of the international operations and a large portion of the Alternate Site domestic operations of ITC are conducted through distributors. For the quarter ended April 2, 2005, 16% of ITC's total product sales were through Cardinal Healthcare, a distributor of our blood coagulation testing equipment and skin incision devices.

To the extent we rely on distributors, our success will depend upon the efforts of others, over which we may have little or no control. If we lose a distributor or a distributor fails to perform to our expectations, our product sales may be harmed.

Changes we make to our method of distributing and selling our products could hurt our relationship with distributors and their customers.

In March 2004, we began changing our manner of distributing our Hemochron product line to our hospital point-of-care customers in the United States from a distributor model to a direct sales model.

This transition to a direct sales model necessitated expanding the sales, technical service, customer service and shipping headcount at ITC in order to provide our customers with the support and service that they historically obtained from our distributors, resulting in an increase in our sales and general and administrative costs. This transition process concluded in the first quarter of 2005, which resulted in the United States hospital point-of-care market now being served directly and exclusively by ITC. This transition and its execution involve significant risks, including:

the promotion by our former distributors of products from competitors rather than our products;

Table of Contents

the potential loss of customers who prefer to deal with a particular distributor; and

the challenges and costs associated with building an effective direct sales force.

If we fail to build an effective direct sales force for our hospital point-of-care product lines, our revenues may fail to increase as expected or could decrease, which could adversely affect our results of operations and financial condition.

Our inability to protect our proprietary technologies or an infringement of others' patents could harm our competitive position.

We rely on patents, trade secrets, copyrights, know-how, trademarks, license agreements and contractual provisions to establish our intellectual property rights and protect our products. These legal means, however, afford only limited protection and may not adequately protect our rights. In addition, we cannot assure you that any of our pending patent applications will issue. The Patent and Trademark Office, or PTO, may deny or significantly narrow claims made under patent applications and the issued patents, if any, may not provide us with commercial protection. We could incur substantial costs in proceedings before the PTO or in any future litigation to enforce our patents in court. These proceedings could result in adverse decisions as to the validity and/or enforceability of our patents. In addition, the laws of some of the countries in which our products are or may be sold may not protect our products and intellectual property to the same extent as U.S. laws, if at all. We may be unable to protect our rights in trade secrets and unpatented proprietary technology in these countries.

Our commercially available VAD products, which account for a majority of our sales, generally are not protected by any patents. We rely principally on trade secret protection and, to a lesser extent, patents to protect our rights to our HeartMate product line. We rely principally on patents to protect our coagulation testing equipment, skin incision devices, Hemochron disposable cuvettes, IRMA analyzer, IRMA disposable cartridges, and Hgb Pro disposable test strips.

We seek to protect our trade secrets and unpatented proprietary technology, in part, with confidentiality agreements with our employees and consultants. Although it is our policy to require that all employees and consultants sign such agreements, we cannot assure you that every person who gains or has gained access to such information has done so. Moreover, these agreements may be breached and we may not have an adequate remedy.

Our products may be found to infringe prior or future patents owned by others. We may need to acquire licenses under patents belonging to others for technology potentially useful or necessary, and such licenses may not be available to us. We could incur substantial costs in defending suits brought against us on such patents or in bringing suits to protect our patents or patents licensed by us against infringement.

For example, in 2003, a patent infringement claim was filed against us by Bodycote Materials Testing Canada, Inc. and David C. MacGregor, M.D. related to materials used in the HeartMate LVAS. On February 3, 2004, we settled the claim and recorded a charge of \$2.3 million in the fourth quarter of 2003 for the settlement and related legal costs.

Product liability claims could damage our reputation and hurt our financial results.

Our business exposes us to an inherent risk of potential product liability claims related to the manufacturing, marketing and sale of human medical devices. We maintain a limited amount of product liability insurance. Our insurance policies generally must be renewed on an annual basis. We may not be able to maintain or increase such insurance on acceptable terms or at reasonable costs, and such insurance may not provide us with adequate coverage against potential liabilities. A successful claim brought against us in excess, or outside, of our insurance coverage

could seriously harm our financial condition and results of operations. Claims against us, regardless of their merit or potential outcome, may also reduce our ability to obtain physician acceptance of our products or expand our business.

Identified quality problems can result in substantial costs and write-downs.

Table of Contents

FDA regulations require us to track materials used in the manufacture of our products, so that any problems identified in a finished product can easily be traced back to other finished products containing the defective materials. In some instances, identified quality issues require scrapping or expensive rework of the affected lot(s), not just the tested defective product, and could also require us to stop shipments.

In addition, since some of our products are used in situations where a malfunction can be life threatening, identified quality issues can result in the recall and replacement, generally free of charge, of substantial amounts of product already implanted or otherwise in the marketplace.

Any quality issue identified can therefore result in substantial costs and write-offs, which could materially harm our financial results.

If we make acquisitions or divestitures, we could encounter difficulties that harm our business.

We may acquire companies, products or technologies that we believe to be complementary to our business. If we do so, we may have difficulty integrating the acquired personnel, operations, products or technologies and we may not realize the expected benefits of any such acquisition. In addition, acquisitions may dilute our earnings per share, disrupt our ongoing business, distract our management and employees and increase our expenses, which could harm our business. We may also sell businesses or assets as part of our strategy or if we receive offers from third parties. If we do so, we may sell an asset or business for less than its full value.

Our non-U.S. sales present special risks.

A substantial portion of our total sales occurs outside the United States. We anticipate that sales outside the United States and U.S. export sales will continue to account for a significant percentage of our product sales and we intend to continue to expand our presence in international markets. Non-U.S. sales are subject to a number of special risks. For example:

we generally sell many of our products at a lower price outside the United States;

sales agreements may be difficult to enforce;

receivables may be difficult to collect through a foreign country's legal system;

foreign customers may have longer payment cycles;

foreign countries may impose additional withholding taxes or otherwise tax our foreign income, impose tariffs or adopt other restrictions on foreign trade;

U.S. export licenses may be difficult to obtain;

intellectual property rights may be more difficult to enforce in foreign countries;

terrorist activity or war may interrupt distribution channels or adversely impact our customers or employees; and

fluctuations in exchange rates may affect product demand and adversely affect the profitability, in U.S. dollars, of products sold in foreign markets where payments are made in local currencies.

Any of these events could harm our operations or operating results.

Any claims relating to improper handling, storage or disposal of hazardous chemicals and biomaterials could be time consuming and costly.

Table of Contents

Producing our products requires the use of hazardous materials, including chemicals and biomaterials. We cannot eliminate the risk of accidental contamination or discharge and any resultant injury from these materials.

We could be subject to both criminal liability and civil damages in the event of an improper or unauthorized release of, or exposure of individuals to, hazardous materials. In addition, claimants may sue us for injury or contamination that results from our use or the use by third parties of these materials, and our liability may exceed our total assets. Compliance with environmental laws and regulations is expensive, and current or future environmental regulations may impair our research, development or production efforts or harm our operating results.

The occurrence of a catastrophic disaster or other similar events could cause damage to our facilities and equipment, which would require us to cease or curtail operations.

We are vulnerable to damage from various types of disasters, including earthquake, fire, terrorist acts, flood, power loss, communications failures and similar events. For example, in October 1989, a major earthquake that caused significant property damage and a number of fatalities struck near the area in which our Pleasanton, California facility is located. If any such disaster were to occur, we may not be able to operate our business at our facilities, in particular because our premises require FDA approval, which could result in significant delays before we can manufacture product from a replacement facility. The insurance we maintain may not be adequate to cover our losses resulting from disasters or other business interruptions. Therefore, any such catastrophe could seriously harm our business and results of operations.

If we are unable to favorably assess the effectiveness of our internal control over financial reporting, or if our independent auditors are unable to provide an unqualified attestation report on our assessment, our stock price could be adversely affected.

Under the Sarbanes-Oxley Act of 2002, or the Act, beginning in 2004 we are required to assess the effectiveness of our internal controls for financial reporting annually and assert that such internal controls are effective. Our independent auditors must evaluate management's assessment of the effectiveness of our internal controls over financial reporting and render an opinion on management's assessment and the effectiveness of our internal controls over financial reporting. The Act has resulted in and is likely to continue to result in increased expenses, and has required and is likely to continue to require significant efforts by management and other employees. Although we believe that our efforts will enable us to remain compliant under the Act, we can give no assurance that in the future such efforts will be successful. Our business is complex and involves significant judgments and estimates as described in our Critical Accounting Estimates. If we have material weaknesses in internal controls, we will not be able to assert that our internal controls over financial reporting are effective, which could adversely effect investor confidence in us and the market price of our common stock.

Fluctuations in foreign currency exchange rates could result in declines in our reported sales and earnings.

Because some of our international sales are denominated in local currencies and not in U.S. dollars, our reported sales and earnings are subject to fluctuations in foreign exchange rates. At present, we use forward foreign currency contracts to hedge the gains and losses created by the remeasurement of non-functional currency denominated assets and liabilities. However, we do not engage in hedge exposures that will arise from future sales. As a result, sales occurring in the future that are denominated in foreign currencies may be translated into U.S. dollars at a less favorable rate than our current exchange rate environment resulting in reduced revenues and earnings.

The competition for qualified personnel is particularly intense in our industry. If we are unable to retain or hire key personnel, we may not be able to sustain or grow our business.

Our ability to operate successfully and manage our potential future growth depends significantly upon retaining key research, technical, sales, marketing, managerial and financial personnel, and attracting and retaining additional highly qualified personnel in these areas. We face intense competition for such personnel, and we may not be able to attract and retain these individuals. We compete for talent with numerous companies, as well as

Table of Contents

universities and nonprofit research organizations, throughout all our locations. The loss of key personnel for any reason or our inability to hire and retain additional qualified personnel in the future could prevent us from sustaining or growing our business. Our success will depend in large part on the continued services of our research, managerial and manufacturing personnel. We cannot assure you that we will continue to be able to attract and retain sufficient qualified personnel.

Risks Related to the Notes and Our Common Stock

Our debt obligations expose us to risks that could adversely affect our business, operating results and financial condition, and prevent us from fulfilling our obligations under the notes.

We have a substantial level of debt. As of April 2, 2005, we had \$143.8 million of outstanding indebtedness. The level of our indebtedness, among other things, could:

make it difficult for us to make payments on our debt as described below;

make it difficult for us to obtain any necessary financing in the future for working capital, capital expenditures, debt service, acquisitions or general corporate purposes;

limit our flexibility in planning for or reacting to changes in our business;

reduce funds available for use in our operations;

impair our ability to incur additional debt because of financial and other restrictive covenants proposed for any such additional debt;

make us more vulnerable in the event of a downturn in our business or an increase in interest rates; or

place us at a possible competitive disadvantage relative to less leveraged competitors and competitors that have better access to capital resources.

If we experience a decline in product sales due to any of the factors described in this Risk Factors section or otherwise, we could have difficulty paying interest or principal amounts due on our indebtedness. If we are unable to generate sufficient cash flow or otherwise obtain funds necessary to make required payments, or if we fail to comply with the various requirements of our indebtedness, including the notes, we would be in default, which would permit the holders of our indebtedness to accelerate the maturity of the indebtedness and could cause defaults under our other indebtedness. Any default under our indebtedness could have a material adverse effect on our business, operating results and financial condition.

The notes are unsecured and rank pari passu with our other senior subordinated debt; the notes are subordinated to our senior debt and structurally subordinated to all liabilities of our subsidiaries.

The notes are unsecured (except to the limited extent described under "Description of Notes - Security") and subordinated in right of payment in full to all of our senior indebtedness (including secured indebtedness). As a result, in the event of any liquidation, dissolution, bankruptcy or upon acceleration of the notes due to an event of default under the indenture governing the notes and in certain other events, our assets will be available to pay obligations on the notes only after all such senior indebtedness has been paid in full. As of April 2, 2005, excluding trade payables, we had \$143.8 million of indebtedness outstanding.

None of our subsidiaries has guaranteed our obligations under, or has any obligation to pay any amounts due on, the notes. As a result, the notes are effectively subordinated to all liabilities of our subsidiaries. Our rights and the rights of our creditors, including holders of the notes, to participate in the assets of any of our subsidiaries upon their liquidation or recapitalization will generally be subject to the prior claims of those subsidiaries' creditors. The ability of our subsidiaries to pay dividends and make other payments to us may be restricted by, among other things, applicable corporate and other laws and regulations, as well as agreements to which our subsidiaries may

Table of Contents

become a party. As of April 2, 2005, our subsidiaries had no outstanding indebtedness other than trade payables and intercompany liabilities.

The notes do not restrict our ability to incur additional debt or to take other actions that could negatively impact holders of the notes.

We are not restricted under the terms of the notes from incurring additional indebtedness, including other senior, senior subordinated or secured debt. In addition, the limited covenants applicable to the notes do not restrict our ability to pay dividends, issue or repurchase stock or other securities or require us to achieve or maintain any minimum financial results relating to our financial position or results of operations. Our ability to recapitalize, incur additional debt and take a number of other actions that are not limited by the terms of the notes could have the effect of diminishing our ability to make payments on the notes when due. In addition, the indenture does not afford protection to holders of the notes in the event of a fundamental change except to the extent described under

Description of Notes Repurchase of the Notes at the Option of Holders upon a Fundamental Change.

We may be unable to repay or repurchase the notes or our other indebtedness.

At maturity, the entire outstanding principal amount of the notes will become due and payable. You may also require us to repurchase the notes on May 16 in each of the years 2011, 2014, 2019, 2024 and 2029. In addition, if a fundamental change, as defined under Description of Notes Repurchase of the Notes at the Option of Holders upon a Fundamental Change, occurs, you may require us to repurchase all or a portion of your notes. We may not have sufficient funds or may be unable to arrange for additional financing to pay the principal amount due at maturity or the repurchase price of the notes. Any future borrowing arrangements or debt agreements to which we become a party may contain restrictions on or prohibitions against our repayment or repurchase of the notes. If we are prohibited from repaying or repurchasing the notes, we could try to obtain the consent of lenders under those arrangements, or we could attempt to refinance the borrowings that contain the restrictions. If we do not obtain the necessary consents or refinance the borrowings, we will be unable to repay or repurchase the notes. Any such failure would constitute an event of default under the indenture, which could, in turn, constitute a default under the terms of any other indebtedness. Any default under our indebtedness could have a material adverse effect on our business, operating results and financial condition.

You could receive less than the value of the shares of common stock into which the notes are convertible as a result of the conditional conversion feature of the notes.

The notes are convertible into shares of our common stock only if specified conditions are met. See Description of Notes Conversion Rights. If the specified conditions for conversion are not met, holders will not be able to convert their notes, and holders may not be able to receive the value of the common stock into which the notes would otherwise be convertible. Further, under certain circumstances, holders converting their notes may receive an amount equal to the accreted principal amount of the notes plus accrued but unpaid cash interest as of the conversion date, rather than an amount equal to the value of the shares issuable upon conversion of the notes. See Description of Notes Conversion Rights.

An active public market may not develop for the notes.

The notes are a relatively new issue of securities with no established trading market. As a result, we cannot provide any assurances that a market will develop for the notes or that you will be able to sell your notes. Notes that are traded after their initial issuance may trade at a discount from their initial offering price. Future trading prices of the notes will depend on many factors, including prevailing interest rates, the market for similar securities, general economic conditions and our financial condition, performance and prospects. Historically, the market for convertible

debt has been subject to disruptions that have caused substantial fluctuations in the prices of the securities. Accordingly, you may be required to bear the financial risk of an investment in the notes for an indefinite period of time.

Since their initial issuance, the notes have been eligible for trading in PORTAL. However, the notes resold pursuant to the registration statement of which this prospectus is a part will no longer be eligible for trading in PORTAL, and we do not intend to list them on any other automated quotation system or any securities exchange. At

Table of Contents

the time of the initial issuance of the notes in May 2004, the initial purchaser of the notes advised us that that it intended to make a market in the notes; however, it is not obligated to do so and may discontinue market making at any time without notice. In addition, market making activity by the initial purchaser is subject to the limits imposed by the Securities Act of 1933 and the Securities Exchange Act of 1934. As a result, a market for the notes may not develop or, if one does develop, it may not be maintained. If an active market for the notes fails to develop or be sustained, the trading price of the notes could decline significantly.

The price of our common stock, and therefore the price of the notes, may fluctuate significantly, which may make it difficult for holders to resell the notes or the common stock issuable upon conversion of the notes when desired or at attractive prices.

We expect the market price of the notes to be affected significantly by the market price of our common stock. The price of our common stock has been, and is likely to continue to be, highly volatile, which means that it could decline substantially within a short period of time. The price of our common stock could fluctuate significantly for many reasons, including the following:

future announcements concerning us or our competitors;

timing and reaction to the publication of clinical trial results;

quarterly variations in operating results, which we have experienced in the past and expect to experience in the future;

charges, amortization and other financial effects relating to our merger with TCA;

introduction of new products or changes in product pricing policies by us or our competitors;

acquisition or loss of significant customers, distributors or suppliers;

business acquisitions or divestitures;

changes in earnings estimates by analysts;

changes in third party reimbursement practices;

regulatory developments, enforcement actions bearing on advertising, marketing or sales, and disclosure regarding completed ongoing or future clinical trials; and

fluctuations in the economy, world political events or general market conditions.

In addition, stock markets in general, and the market for shares of health care stocks in particular, have experienced extreme price and volume fluctuations in recent years, which fluctuations have frequently been unrelated to the operating performance of the affected companies. These broad market fluctuations may adversely affect the market price of our common stock. The market price of our common stock could decline below its current price and the market price of our stock may fluctuate significantly in the future. These fluctuations may be unrelated to our performance.

Shareholders have often instituted securities class action litigation after periods of volatility in the market price of a company's securities. Several securities class action suits have been filed against us, and if other such suits are filed against us in the future, we may incur substantial legal fees and our management's attention and resources would

be diverted from operating our business in order to respond to the litigation. See Certain lawsuits have been filed against us above.

Conversion of the notes or other future issuances of our stock will dilute the ownership interests of existing shareholders.

Table of Contents

The conversion of some or all of the notes will dilute the ownership interest of our existing shareholders. Any sales in the public market of the common stock issuable upon such conversion could adversely affect prevailing market prices of our common stock. Further, the existence of the notes may encourage short selling by market participants because the conversion of the notes could depress the price of our common stock. In addition, future sales of substantial amounts of our stock in the public market, or the perception that such sales could occur, could adversely affect the market price of our stock. Sales of our shares and the potential for such sales could cause our stock price to decline.

Our adoption of Emerging Issues Task Force (EITF) Issue No. 04-8 in the fourth quarter of 2004, which requires the inclusion of all shares available upon conversion of the notes in our diluted earnings per share, or EPS, regardless of whether the notes are then convertible, did not have a material impact on our consolidated results for the periods in which the notes were outstanding as the effect of the 7.3 million shares was anti-dilutive. However, if in future periods the shares are dilutive, then 7.3 million shares will be added to our share count used to calculate diluted earnings per share, and this inclusion could result in significantly lower diluted EPS than if we had not adopted EITF 04-8.

Rating agencies may provide unsolicited ratings on the notes that could reduce the market value or liquidity of the notes.

We have not requested a rating of the notes from any rating agency and believe it is unlikely that the notes will be rated. However, if one or more rating agencies rates the notes and assigns the notes a rating lower than the rating expected by investors, or reduces their rating in the future, the market price or liquidity of the notes and our common stock could be harmed.

You should consider the United States federal income tax consequences of owning the notes.

The notes will be subject to U.S. Treasury regulations governing debt instruments with original issue discount. Under these regulations, whether or not you receive interest in any period, you will be required to include amounts in income and to accrue interest on a constant yield to maturity basis at a rate equal to the discount rate that, when used in computing the present value of all scheduled principal and interest payments, equals the issue price of the notes. To understand how this may affect you, you should seek advice from your own tax advisors prior to purchasing these notes. Please read "Material United States Federal Income Tax Considerations" in this prospectus.

Anti-takeover defenses in our governing documents could prevent an acquisition of our company or limit the price that investors might be willing to pay for our common stock.

Our governing documents could make it difficult for another company to acquire control of our company. For example:

Our articles of incorporation allow our Board of Directors to issue, at any time and without shareholder approval, preferred stock with such terms as it may determine. No shares of preferred stock are currently outstanding. However, the rights of holders of any of our preferred stock that may be issued in the future may be superior to the rights of holders of our common stock.

We have a rights plan, commonly known as a "poison pill," which would make it difficult for someone to acquire our company without the approval of our Board of Directors.

All or any one of these factors could limit the price that certain investors would be willing to pay for shares of our common stock and could delay, prevent or allow our Board of Directors to resist an acquisition of our company, even if the proposed transaction was favored by a majority of our independent shareholders.

Table of Contents**USE OF PROCEEDS**

Proceeds from the sale of the notes and the common stock offered pursuant to this prospectus are solely for the account of the selling securityholders. Accordingly, we will not receive any proceeds from the sale of the notes or the underlying shares of common stock offered by this prospectus.

RATIO OF EARNINGS TO FIXED CHARGES

The following table sets forth our ratio of earnings to fixed charges for each of the periods indicated:

	Three Months Ended April 2, 2005	January 1, 2005	January 3, 2004	Year Ended December 28, 2002	December 29, 2001	December 30, 2000
Ratio of Earnings to Fixed Charges	4.81x	2.42x		1.54x		4.58x
Deficiency of Earnings Available to Cover Fixed Charges (in thousands)			\$ 3,576		\$ 91,191*	

For purposes of computing these ratios, earnings represent income from continuing operations before income taxes and fixed charges. Fixed charges represent interest expense on the notes due 2034 (\$0.9 million for the three months ended April 2, 2005 and \$2.1 million for fiscal 2004) and on our convertible debentures due 2004 (\$0.5 million in fiscal 2002, \$2.6 million in fiscal 2001, and \$3.0 million in fiscal 2000), amortization of related capitalized debt issuance costs (\$0.2 million for the three months ended April 2, 2005, \$0.4 million in fiscal 2004 and \$0.2 million in fiscal 2001 and 2000), write off of capitalized debt issuance costs upon repurchase of the convertible debentures due 2004 (\$0.5 million in fiscal 2002), and the assumed interest expense implicit in our operating leases (\$0.2 million for the three months ended April 2, 2005, \$0.8 million in fiscal 2004, \$0.7 million in fiscal 2003, \$0.6 million in fiscal 2002 and fiscal 2001, and \$0.2 million in fiscal 2000). We estimate the interest component of our operating leases to be one third of rental expense. There were insufficient earnings available to cover fixed charges for the fiscal years ended January 3, 2004 and December 29, 2001. As a result, the ratio of earnings to fixed charges was less than 1.0 for such years. The deficiencies of earnings available to cover fixed charges for these years are indicated in the table above.

* Fiscal year 2001 earnings include the impact of a \$78.9 million write-off of in process research and development resulting from the Merger.

Table of Contents

DESCRIPTION OF NOTES

We issued the notes under an indenture, dated as of May 24, 2004, between Thoratec Corporation, as issuer, and U.S. Bank National Association, as trustee. The terms of the notes include those provided in the indenture and those made part of the indenture by reference to the Trust Indenture Act of 1939, as amended. The notes are also entitled to registration rights under the registration rights agreement. The pledge agreement described under Security below sets forth the terms of the pledge that will secure the payment of the first six scheduled interest payments on the notes when due. As used in this description of notes, the words our company, we, us, our or Thoratec refer only to Thoratec Corporation and do not include any of its subsidiaries.

We have summarized the material provisions of the notes below. The following description is not complete and you should read the indenture, pledge agreement and registration rights agreement for provisions that may be important to you. You can obtain a copy of the indenture, pledge agreement or the registration rights agreement by following the directions below under the caption Where You Can Find More Information or by requesting copies from the company at its executive offices, 6035 Stoneridge Drive, Pleasanton, California 94588, Attention: Investor Relations.

General

The notes are limited to \$247,427,000 aggregate principal amount at maturity. The notes will mature on May 16, 2034. The principal amount at maturity of each note is \$1,000. The notes will be payable at the principal corporate trust office of the paying agent, which initially will be an office or agency of the trustee, or an office or agency maintained by us for such purpose, in the City of New York.

The notes will bear cash interest at the rate of 1.3798% per year on the principal amount at maturity (equivalent to a rate of 2.375% per year of the issue price) from the issue date, or from the most recent date to which interest has been paid or provided for, until May 16, 2011. During such period, cash interest will be payable semiannually in arrears on May 16 and November 16 of each year, beginning on November 16, 2004, to holders of record at the close of business on the May 1 or November 1 immediately preceding such interest payment date. Each payment of cash interest on the notes will include interest accrued through the day before the applicable interest payment date (or purchase or redemption date, as the case may be). Cash interest will be calculated using a 360-day year comprised of twelve 30-day months. Any payment required to be made on any day that is not a business day will be made on the next succeeding business day, without any additional interest. A business day is any weekday that is not a day on which banking institutions in the City of New York are authorized or obligated to close.

The notes were offered at a substantial discount from their principal amount at maturity. The notes were issued at an issue price of \$580.98 per \$1,000 principal at maturity. Beginning May 16, 2011, for non-tax purposes the notes will accrue original issue discount daily while they remain outstanding at a rate of 2.375% per year. The accreted principal amount of a note as of a date equals the sum of the issue price of the note and the accrued original issue discount as of that date. Original issue discount for non-tax purposes is the difference between the issue price and the principal amount at maturity of a note. The calculation of the accrual of such original issue discount will be on a semiannual bond equivalent basis, using a 360-day year composed of twelve 30-day months. The term original issue discount, as used in this section, means original issue discount for non-tax purposes. For a discussion of tax consequences related to ownership of the notes, see Material United States Federal Income Tax Considerations.

Original issue discount or cash interest, as the case may be, will cease to accrue on a note upon its maturity, conversion, purchase by us at the option of a holder or redemption. We may not reissue a note that has matured or been converted, purchased by us at your option, redeemed or otherwise cancelled, except for registration of transfer, exchange or replacement of such note.

Notes may be presented for conversion at the office of the conversion agent and for exchange or registration of transfer at the office of the registrar. The conversion agent and the registrar will initially be the trustee. No service charge will be made for any registration of transfer or exchange of notes. However, we may require the holder to pay any tax, assessment or other governmental charge payable as a result of such transfer or exchange.

Table of Contents

The indenture does not contain any financial covenants and does not restrict us from paying dividends, incurring additional indebtedness or issuing or repurchasing our other securities. The indenture also does not protect you in the event of a highly leveraged transaction or a change of control of Thoratec except to the limited extent described under Conversion Rights Conversion Upon Occurrence of Certain Corporate Transactions, Repurchase of the Notes at the Option of Holders Upon a Fundamental Change and Consolidation, Merger or Sale of Assets.

Ranking of the Notes

The notes, except to the extent described under Security below, are our unsecured, senior subordinated obligations and, except to the extent described under Security below, rank junior in right of payment to all of our other senior indebtedness, including trade payables, as more fully described under Subordination of Notes below. The notes rank equal in right of payment to all of our other senior subordinated indebtedness, if any. The notes effectively rank junior to our existing and future secured indebtedness to the extent of the assets securing such indebtedness.

In addition, we conduct a significant portion of our business operations through subsidiaries, including our wholly-owned subsidiary, ITC. The notes rank junior to all existing and future indebtedness and other liabilities, including trade payables, of our subsidiaries. See Risk Factors Risks Related to the Notes and Our Common Stock The notes are subordinated and we may incur additional debt. Our subsidiaries are separate and distinct legal entities and have no obligation, contingent or otherwise, to pay any amounts due pursuant to the notes or to make any funds available to do so, whether by dividends, loans or other payments. In addition, the payment of dividends and the making of loans and advances to us by any subsidiary may be subject to statutory, contractual or other restrictions and dependent upon the earnings or financial conditions of those subsidiaries and subject to various business considerations. As a result, we may be unable to gain access to the cash flow or assets of our subsidiaries.

As of January 1, 2005, other than trade payables, we had no senior indebtedness outstanding, and we had no senior subordinated indebtedness other than the notes. Except to the extent described under Security below, payments on the notes are subordinated in right of payment to the payment of our senior indebtedness.

Subordination of Notes

The payment of principal of and interest (including liquidated damages, if any) on the notes is subordinated in right of payment, as set forth in the indenture, to the prior payment in full in cash or cash equivalents (or otherwise to the extent holders accept satisfaction of amounts due by settlement in other than cash or cash equivalents) of all senior indebtedness whether outstanding on the date of the indenture or thereafter incurred. The notes also are structurally subordinated to all indebtedness and other liabilities, including trade payables, but excluding intercompany liabilities, of our subsidiaries.

In the event of any insolvency or bankruptcy case or proceeding, or any receivership, liquidation, reorganization or other similar case or proceeding in connection therewith, relating to Thoratec or to its assets, or any liquidation, dissolution or other winding-up of Thoratec, whether voluntary or involuntary, or any assignment for the benefit of creditors or other marshalling of assets or liabilities of Thoratec, except in connection with the consolidation or merger of Thoratec or its liquidation or dissolution following the conveyance, transfer or lease of its properties and assets substantially upon the terms and conditions described under Consolidation, Merger or Sale of Assets below, the holders of senior indebtedness will be entitled to receive payment in full in cash or cash equivalents (or otherwise to the extent holders accept satisfaction of amounts due by settlement in other than cash or cash equivalents) of all senior indebtedness, or provision shall be made for such payment, before the holders of notes will be entitled to receive any payment or distribution of any kind or character (other than (a) payments contemplated under Security below and (b) payments or distributions in the form of Permitted Junior Securities (as defined below), whether on account of principal of or interest, including liquidated damages, if any, on the notes). Any payment or distribution of assets of

Thoratec of any kind or character, whether in cash, property or securities (other than (x) payments contemplated under Security below and (y) payments or distributions in the

Table of Contents

form of Permitted Junior Securities) by set-off or otherwise, to which the holders of the notes or the trustee would be entitled but for the provisions of the indenture relating to subordination will be paid by the liquidating trustee or agent or other person making such payment or distribution directly to the holders of senior indebtedness or their representatives, ratably according to the aggregate amounts remaining unpaid on account of the senior indebtedness, to the extent necessary to make payment in full in cash or cash equivalents (or otherwise to the extent holders accept satisfaction of amounts due by settlement in other than cash or cash equivalents) of all senior indebtedness remaining unpaid, or to have such payment duly provided for, after giving effect to any concurrent payment or distribution to the holders of such senior indebtedness.

No payment or distribution of any assets of Thoratec of any kind or character, whether in cash, property or securities (other than (a) payments contemplated under Security below and (b) payments in the form of Permitted Junior Securities), may be made by or on behalf of Thoratec on account of principal of or interest or liquidated damages, if any, on the notes or on account of the purchase, redemption or other acquisition of notes upon the occurrence of any Payment Default, and after receipt by the trustee of written notice from the representative of the holders of the Designated Senior Indebtedness in respect of which such Payment Default exists, until such Payment Default has been cured or waived in writing or ceases to exist or the senior indebtedness giving rise to such Payment Default has been discharged or paid in full in cash or cash equivalents (or otherwise to the extent holders accept satisfaction of amounts due by settlement in other than cash or cash equivalents).

No payment or distribution of any assets of Thoratec of any kind or character, whether in cash, property or securities (other than (a) payments contemplated under Security below and (b) payments in the form of Permitted Junior Securities), may be made by or on behalf of Thoratec on account of principal of or interest or liquidated damages, if any, on the notes or on account of the purchase, redemption or other acquisition of notes during a Payment Blockage Period arising as a result of a Non-Payment Default.

A Payment Blockage Period will commence upon the date of receipt by the trustee of written notice from the representative of the holders of Designated Senior Indebtedness in respect of which a Non-Payment Default exists and shall end on the earliest to occur of:

179 days thereafter (provided that any Designated Senior Indebtedness as to which notice was given shall not theretofore have been accelerated);

the date on which such Non-Payment Default is cured, waived or ceases to exist;

the date on which such Designated Senior Indebtedness is discharged or paid in full; and

the date on which such Payment Blockage Period has been terminated by written notice to the trustee or Thoratec from the representative initiating such Payment Blockage Period;

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

If, notwithstanding the preceding four paragraphs, any payment or distribution is received by the trustee or any holder of the notes, which payment is prohibited by such provisions, then such payment shall be held for the benefit of, and paid over and delivered by such trustee or holder to, the representatives of holders of senior indebtedness, as their interests may appear, for application to senior indebtedness to the extent necessary to pay or to provide for the

payment of all such senior indebtedness in full in cash or cash equivalents (or otherwise to the extent holders accept satisfaction of amounts due by settlement in other than cash or cash equivalents). After all senior indebtedness is paid in full and until the notes are paid in full, holders of the notes shall be subrogated (equally and ratably with all other indebtedness that is equal in right of payment to the notes) to the rights of holders of senior indebtedness to receive distributions applicable to senior indebtedness to the extent that distributions otherwise

Table of Contents

payable to the holders of the notes have been applied to the payment of senior indebtedness.

By reason of these subordination provisions, upon the liquidation, receivership, reorganization or insolvency of Thoratec, holders of the notes may recover less, ratably, than holders of senior indebtedness.

Designated Senior Indebtedness means our obligations under any particular senior indebtedness that expressly provides that such senior indebtedness shall be Designated Senior Indebtedness for purposes of the indenture (provided that the instrument, agreement or other document may place limitations and conditions on the right of senior indebtedness to exercise the rights of Designated Senior Indebtedness).

indebtedness means, with respect to any person, without duplication:

all obligations and other liabilities, contingent or otherwise, of such person for borrowed money (including overdrafts) to the extent such obligations and other liabilities would appear as a liability on the consolidated balance sheet of such a person in accordance with generally accepted accounting principles or for the deferred purchase price of property or services, excluding any trade payables and other accrued current liabilities incurred in the ordinary course of business, but including, without limitation, all obligations, contingent or otherwise, of such person in connection with any letters of credit and acceptances issued under letter of credit facilities, acceptance facilities or other similar facilities;

all obligations of such person evidenced by credit or loan agreements, notes, bonds, debentures or other similar instruments;

all obligations and other liabilities, contingent or otherwise, of such person created or arising under any conditional sale or other title retention agreement with respect to property acquired by such person (even if the rights and remedies of the seller or lender under such agreement in the event of default are limited to repossession or sale of such property) but excluding trade payables arising in the ordinary course of business;

all obligations and liabilities, contingent or otherwise, in respect of leases of the person required, in conformity with generally accepted accounting principles, to be accounted for as capitalized lease obligations on the consolidated balance sheet of the person;

all net obligations of such person under or in respect of interest rate agreements, currency agreements or other swap, cap, floor or collar agreements, hedge agreements, forward contracts or similar instruments or agreements or foreign currency hedge, exchange or purchase or similar instruments or agreements;

the present value of the obligations of such person as lessee for net rental payments (excluding all amounts required to be paid on account of maintenance and repairs, insurance, taxes, assessments, water, utilities and similar charges to the extent included in such rental payments) during the remaining term of the lease included in any sale and leaseback transaction including any period for which such lease has been extended or may, at the option of the lessor, be extended (this present value shall be calculated using a discount rate equal to the rate of interest implicit in such transaction, determined in accordance with generally accepted accounting principles);

all indebtedness referred to in (but not excluded from) the preceding clauses of other persons, the payment of which is secured by (or for which the holder of such indebtedness has an existing right, contingent or otherwise, to be secured by) any lien on or with respect to property, including, without limitation, accounts and contract rights, owned by such person, even though such person has not assumed or become liable for

the payment of such indebtedness (the amount of such obligation being deemed to be the lesser of the value of such property or asset or the amount of the obligation so secured);

all direct or indirect guarantees or similar arrangements by such person of indebtedness referred to in

Table of Contents

this definition of any other person; and

any and all refinancings, replacements, deferrals, renewals, extensions and refundings of or amendments, modifications or supplements to, any indebtedness, obligation or liability of the kind described in the clauses above.

Non-Payment Default means any event of default with respect to any Designated Senior Indebtedness, other than a Payment Default, that has occurred and is continuing pursuant to which the maturity thereof may be accelerated.

A Payment Default means a default in payment, whether at scheduled maturity, upon scheduled installment, by acceleration or otherwise, of principal or premium, if any, or interest or other amounts due on any Designated Senior Indebtedness that has occurred and is continuing beyond any applicable grace period.

senior indebtedness means any indebtedness of Thoratec, unless by the terms of the instrument creating or evidencing such indebtedness, the indebtedness is expressly designated equal or junior in right of payment to the notes; provided that **senior indebtedness** does not include:

indebtedness evidenced by the notes; and

indebtedness of Thoratec to any direct or indirect majority-owned subsidiary of Thoratec, other than indebtedness arising by reason of guarantees by us of indebtedness of any such subsidiary to a person that is not such a subsidiary.

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

Our subsidiaries are separate and distinct legal entities from Thoratec and have no obligation, contingent or otherwise, to pay any amounts due pursuant to the notes or to make any funds available therefor, whether by dividends, loans or other payments. In addition, the payment of dividends and the making of loans and advances to us by any such subsidiaries may be subject to statutory, contractual or other restrictions and are dependent upon the earnings or financial conditions of those subsidiaries and subject to various business considerations. As a result, we may be unable to gain access to the cash flow or assets of our subsidiaries.

Security

We purchased and pledged to the trustee as security for the exclusive benefit of the holders of the notes (and not for the benefit of our other creditors), approximately \$9.8 million of U.S. government securities, which are intended to provide for payment in full of the first six scheduled interest payments (up to and including the interest payment due on May 16, 2007), but not liquidated damages, if any, on the notes when due.

We pledged the U.S. government securities to the trustee for the exclusive benefit of the holders of the notes. Those securities are being held by the trustee in a pledge account. Immediately prior to each of the first six scheduled interest payment dates, the trustee will release from the pledge account proceeds sufficient to pay the interest then due on the notes if we have not made other provision for payment of such interest. A failure to pay interest on the notes when due for any of the first six scheduled interest payment dates will constitute an event of default under the indenture governing the notes, with no grace period (unless due solely to the fault of the trustee, in which case we have a three business day grace period).

The pledged U.S. government securities and the pledge account will also secure the repayment of the principal amount and liquidated damages, if any, on the notes only to the extent provided in the following circumstance. If prior to May 16, 2007:

an event of default under the notes occurs and is continuing; and

24

Table of Contents

the trustee or the holders of 25% in aggregate principal amount of the notes outstanding accelerate the notes by declaring the principal amount of the notes to be immediately due and payable (by written consent, at a meeting of noteholders or otherwise), except that upon the occurrence of an event of default relating to our bankruptcy, insolvency or reorganization, the notes will be accelerated automatically; then the proceeds from the pledged U.S. government securities will be promptly released for payment to noteholders, subject to the automatic stay provisions of bankruptcy law, if applicable. Distributions from the pledge account will be applied:

first, to any accrued and unpaid interest on the notes; and

second, the balance of the proceeds of the pledge account, to repayment of a portion of the principal amount of the notes and liquidated damages, if any, due on the notes.

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

For example, if the first two interest payments were made when due but the third interest payment was not made when due and the noteholders promptly exercised their right to declare the principal amount of the notes to be immediately due and payable, then, assuming the automatic stay provisions of bankruptcy law are inapplicable and the proceeds of the pledged U.S. government securities are promptly distributed from the pledge account,

an amount equal to the interest payment due on the third interest payment would be distributed from the pledge account as accrued interest; and

the balance of the proceeds of the pledge account would be distributed as a portion of the principal amount of the notes and liquidated damages, if any, due on the notes.

In addition, noteholders would have an unsecured senior subordinated claim against us for the remainder of the principal amount of their notes and liquidated damages, if any.

Once we make the first six scheduled interest payments on the notes, or at such earlier time when all of the notes have been redeemed, repurchased or converted, all of the remaining pledged U.S. government securities, if any, will be released to us from the pledge account.

Conversion Rights

A holder may convert a note in integral multiples of \$1,000 principal amount at maturity, into common stock only if the conditions for conversion described below are satisfied. In addition, a holder may convert a note only until the close of business on the second business day prior to the redemption date if we call a note for redemption. A note for which a holder has delivered a purchase notice or a fundamental change repurchase notice requiring us to purchase the note may be surrendered for conversion only if such notice is withdrawn in accordance with the indenture. Upon a conversion, we will have the right to deliver cash or a combination of cash or common stock, as described below. In certain circumstances involving a cash buy-out, we will pay a make whole premium to holders of notes upon conversion of the notes.

For each \$1,000 principal amount at maturity of notes surrendered for conversion, a holder will receive 29.4652 shares of our common stock, which we refer to as the conversion rate. The conversion rate may be adjusted upon the occurrence of the events described below. In lieu of delivering shares of our common stock upon notice of conversion of all or any portion of the notes, we may elect to pay holders surrendering notes an amount in cash per note (or a portion of a note) equal to the average sale price of our common stock for the five consecutive trading days

immediately following (a) the date of our notice of our election to deliver cash as described below if we have

Table of Contents

not given notice of redemption, or (b) the conversion date, in the case of conversion following our notice of redemption specifying that we intend to deliver cash upon conversion, in either case multiplied by the conversion rate in effect on that date. We will inform the holders through the trustee no later than two business days following the conversion date of our election to deliver shares of our common stock or to pay cash in lieu of delivery of the shares, unless we have already informed holders of our election in connection with our optional redemption of the notes as described under Redemption of Notes at Our Option. If we elect to deliver all of such payment in shares of our common stock, the shares will be delivered through the conversion agent no later than the fifth business day following the conversion date. If we elect to pay all or a portion of such payment in cash, the payment, including any delivery of our common stock, will be made to holders surrendering notes no later than the tenth business day following the applicable conversion date. If an event of default, as described under Events of Default and Acceleration below (other than a default in a cash payment upon conversion of the notes), has occurred and is continuing, we may not pay cash upon conversion of any notes or portion of the notes (other than cash for fractional shares). As used in this Description of Notes, all references to our common stock are to our common stock, no par value (see Description of Capital Stock).

The ability to surrender notes for conversion will expire at the close of business on May 16, 2034.

To convert a note, a holder must:

- complete and manually sign a conversion notice, a form of which is on the back of the note, and deliver the conversion notice to the conversion agent;

- surrender the note to the conversion agent;

- if required by the conversion agent, furnish appropriate endorsements and transfer documents; and

- if required, pay all transfer or similar taxes.

Upon conversion of a note, except as described in the next paragraph, a holder will not receive any cash payment representing any accrued but unpaid cash interest. Our delivery to the holder of the full number of shares of common stock into which the note is convertible, together with any cash payment for such holder's fractional shares, or cash or a combination of cash and common stock in lieu thereof, will be deemed to satisfy our obligation to pay the principal amount at maturity of the note and to satisfy our obligation to pay accrued and unpaid cash interest attributable to the period from the most recent interest payment date through the conversion date.

As a result, accrued but unpaid cash interest is deemed paid in full rather than cancelled, extinguished or forfeited. Holders of notes surrendered for conversion during the period from the close of business on any regular record date next preceding any interest payment date to the opening of business of such interest payment date will receive the semiannual interest payable on such notes on the corresponding interest payment date notwithstanding the conversion, and such notes upon surrender must be accompanied by funds equal to the amount of such payment, unless such notes have been called for redemption, in which case no such payment will be required.

The conversion rate will not be adjusted for accrued original issue discount or accrued but unpaid cash interest. For a discussion of the tax treatment of a holder receiving cash and shares of our common stock (or any cash in lieu thereof), upon surrendering notes for conversion, see Material United States Federal Income Tax Considerations.

We will adjust the conversion rate for:

- (1) dividends or distributions on our common stock payable in our common stock or other capital stock of our company;
- (2) subdivisions, combinations or certain reclassifications of our common stock;
- (3) distributions to all holders of our common stock of certain rights to purchase shares of our

Table of Contents

common stock for a period expiring within 60 days after such distribution at less than the closing price of our common stock at that time;

(4) non-cash distributions to the holders of our common stock of a portion of our assets (including shares of capital stock of, or similar equity interests in, a subsidiary) or debt securities issued by us or certain rights to purchase our securities;

(5) distributions of cash, excluding any dividend or distribution in connection with our liquidation, dissolution or winding up; in the event of a dividend or distribution to which this clause (5) applies, the conversion rate will be adjusted by multiplying the conversion rate by a fraction,

the numerator of which will be the current market price of our common stock and

the denominator of which will be the current market price of our common stock minus the amount per share of such dividend or distribution; and

(6) payments by us or one of our subsidiaries in respect of a tender offer or exchange offer for our common stock to the extent that the cash and value of any other consideration included in the payment per share of common stock exceeds the average of the closing price per share of our common stock for each of the ten consecutive trading days next succeeding the last date on which tenders or exchanges may be made pursuant to such tender or exchange offer, in which event the conversion rate will be adjusted by multiplying the base conversion rate by a fraction,

the numerator of which will be the sum of (x) the fair market value, as determined by our Board of Directors, of the aggregate consideration payable for all shares of our common stock we purchase in such tender or exchange offer and (y) the product of the number of shares of our common stock outstanding less any such purchased shares, and the average of the closing price per share of our common stock for each of the ten consecutive trading days next succeeding the expiration of the tender or exchange offer; and

the denominator of which will be the product of the number of shares of our common stock outstanding, including any such purchased shares, and the average of the closing price per share of our common stock for each of the ten consecutive trading days next succeeding the expiration of the tender or exchange offer.

Current market price of our common stock on any day means the average of the closing price per share of our common stock for each of the ten consecutive trading days ending on the earlier of the day in question and the trading day before the ex-date with respect to the issuance or distribution requiring such computation. For purposes of this paragraph, ex-date means the first date on which the shares of our common stock trade on the applicable exchange or in the applicable market, regular way, without the right to receive such issuance or distribution.

A trading day is any day on which the NASDAQ National Market or, if our common stock is not quoted on the NASDAQ National Market, the principal national securities exchange on which our common stock is listed, is open for trading or, if the applicable security is listed on the New York Stock Exchange, a day on which trades may be made on such market or, if the applicable security is not so listed, admitted for trading or quoted, any business day. A trading day only includes those days that have a scheduled closing time of 4:00 p.m. (New York City time) or the then standard closing time for regular trading on the relevant exchange or trading system.

The closing price of our common stock on any trading day means the closing sale price per share (or if no closing sale price is reported, the average of the bid and ask prices per share or, if more than one in either case, the average of the average bid and the average ask prices per share) on such date reported by NASDAQ National Market or, if our common stock is not quoted on the NASDAQ National Market, as reported by the principal national

securities exchange on which our common stock is listed or otherwise as provided in the indenture.

Table of Contents

If we elect to make a distribution to all holders of shares of our common stock pursuant to clause (3), (4) or (5) above and which, in the case of clause (4) or (5), has a per share value equal to more than 10% of the closing price of our shares of common stock on the day preceding the declaration date for such distribution, we will be required to give notice to the holders of notes at least 20 days prior to the date for such distribution and, upon the giving of such notice, the notes may be surrendered for conversion at any time until the close of business on the business day prior to the date of distribution or until we announce that such distribution will not take place.

If we pay a dividend or make a distribution on shares of our common stock consisting of capital stock of, or similar equity interests in, a subsidiary of ours, the conversion rate will be adjusted based on the market value of the securities so distributed relative to the market value of our common stock, in each case in a manner determined in accordance with the indenture.

No adjustment to the conversion rate need be made if holders of the notes may participate in the transaction without conversion or in certain other cases.

If more than one event occurs requiring that an adjustment be made to the conversion rate for a given period, certain adjustments to the conversion rate will be determined by our Board of Directors to reflect the combined impact of such conversion rate adjustment events during such period. Whenever conversion rate adjustments are required under the indenture, such adjustments will be made to the conversion rate as may be necessary and appropriate to effectuate the intent of the indenture, and to avoid unjust or inequitable results, as determined in good faith by our Board of Directors.

In addition, the indenture provides that upon conversion of the notes, the holders of such notes will receive, to the extent that we elect to deliver shares of common stock upon such conversion, the rights related to such common stock pursuant to our existing and any future shareholder rights plan, whether or not such rights have separated from the common stock at the time of such conversion. However, there will not be any adjustment to the conversion privilege or conversion rate as a result of:

the issuance of such rights;

the distribution of separate certificates representing such rights;

the exercise or redemption of such rights in accordance with any rights agreement; or

the termination or invalidation of such rights.

Notwithstanding the foregoing, if a holder of notes exercising its right of conversion after the distribution of rights pursuant to any rights plan is not entitled to receive the rights that would otherwise be attributable (but for the date of conversion) to the shares of common stock to be received upon such conversion, if any, the conversion rate will be adjusted as though the rights were being distributed to holders of common stock on the date of conversion. If such an adjustment is made and such rights are later redeemed, invalidated or terminated, then a corresponding reversing adjustment will be made to the conversion rate on an equitable basis.

The indenture permits us to increase the conversion rate for a period of time from time to time.

For U.S. federal income tax purposes, adjustments to the conversion rate (or failures to make such adjustments) that have the effect of increasing the holders' proportionate interests in our assets or earnings may in some circumstances result in a taxable deemed distribution to the holders. See Material United States Federal Income Tax Considerations.

We will not be required to adjust the conversion rate unless the adjustment would result in a change of at least one percent in the conversion rate. However, we will carry forward any adjustments that are less than one percent of the conversion rate, which adjustments will be taken into account in determining whether any subsequent adjustments exceed one percent of the conversion rate.

Upon determining that the holders are or will be entitled to convert their notes into shares of common stock

Table of Contents

in accordance with these provisions, we will promptly issue a press release and use our reasonable efforts to post such information on our website or otherwise publicly disclose this information.

Conversion Based On Common Stock Price

Holders may surrender notes for conversion into shares of our common stock during any calendar quarter commencing at any time after September 30, 2004, if, as of the last day of the preceding calendar quarter, the closing price of our common stock for at least 20 trading days in a period of 30 consecutive trading days ending on the last trading day of such preceding calendar quarter is more than 120% of the accreted conversion price per share of common stock on the last day of such preceding calendar quarter. Once the foregoing condition has been satisfied for any one quarter, then the notes will thereafter be convertible at any time through maturity at the option of the holder. Upon a conversion, we will have the right to deliver cash or a combination of cash and common stock, as described above.

The accreted conversion price per share of common stock as of any day will equal the sum of the issue price of a note plus the accrued original issue discount to that day divided by the then applicable conversion rate.

The conversion trigger price per share of our common stock in respect of each of the first 28 calendar quarters following issuance of the notes is \$23.66. This conversion trigger price reflects the accreted conversion price per share of common stock multiplied by 120%. Thereafter, the accreted conversion price per share of common stock increases each calendar quarter by the accreted original issue discount for the quarter. The foregoing conversion trigger price assumes that no events have occurred that would require an adjustment to the conversion rate.

Conversion upon Satisfaction of Trading Price Condition

Holders may surrender notes for conversion on or prior to May 16, 2029 during the five business day period after satisfaction of the trading price condition. The trading price condition will be satisfied if during any five consecutive trading days the trading price per note for each day of that period was less than 98% of the product of the closing price of our common stock and the conversion rate; provided that if, on the day prior to any conversion pursuant to the trading price condition, the closing price of our common stock is greater than the accreted conversion price but less than or equal to 120% of the accreted conversion price upon any such conversion, you will receive, in lieu of common stock based on the conversion rate, cash or common stock or a combination of cash and common stock at our option with a value equal to the accreted principal amount of the notes plus accrued and unpaid cash interest and liquidated damages, if any, as of the conversion date. We refer to this amount as the principal value conversion. If you surrender your notes for conversion and it is a principal value conversion, we will give notice to the applicable holders no later than the first business day following the conversion date of our election to deliver shares of our common stock and/or cash. Any common stock delivered upon a principal value conversion will be valued at the greater of the accreted conversion price on the conversion date and the applicable stock price as of the conversion date. We will then deliver such common stock and/or cash to holders surrendering notes for conversion no later than the tenth business day following the applicable conversion date. The applicable stock price means, in respect of a conversion date, the average of the closing price per share of common stock over the five trading day period starting the third trading day following such conversion date.

The trading price of the notes on any date of determination means the average of the secondary market bid quotations obtained by the bid solicitation agent for \$2.5 million principal amount at maturity of the notes, in accordance with the procedures described below, at approximately 4:00 p.m., New York City time, on such determination date from three independent nationally recognized securities dealers we select; provided that if three such bids cannot reasonably be obtained by the bid solicitation agent, but two such bids are obtained, then the average of the two bids shall be used, and if only one such bid can reasonably be obtained by the bid solicitation agent, that

one bid shall be used. If the bid solicitation agent cannot reasonably obtain at least one bid for \$2.5 million principal amount at maturity of the notes from a nationally recognized securities dealer or in our reasonable judgment, the bid quotations are not indicative of the secondary market value of the notes, then for purposes of determining whether the trading price condition has been triggered, the trading price per note will be deemed to be less than 98% of the product of the closing price of our common stock and the number of shares issuable upon conversion of such notes.

Table of Contents

In connection with any conversion upon satisfaction of the above trading price condition, the trustee will have no obligation to determine the trading price of the notes, provided that we may request the trustee to direct the bid solicitation agent to obtain such bid quotation in accordance with the foregoing paragraph. We will have no obligation to make such request unless you provide us with reasonable evidence that the trading price per note would be less than 98% of the product of the closing price of our common stock and the number of shares of common stock issuable upon conversion of such note. At that time, we will instruct the trustee to direct the bid solicitation agent to determine the trading price of the notes in accordance with the foregoing procedures beginning on the next trading day and on each successive trading day until the trading price per such note is greater than or equal to 98% of the product of the closing price of our common stock and the number of shares issuable upon conversion of such note.

Conversion Based on Redemption

A holder may surrender for conversion a note called for redemption at any time prior to the close of business on the business day immediately preceding the redemption date, even if it is not otherwise convertible at that time. A note for which a holder has delivered a purchase notice or a fundamental change repurchase notice, as described below, requiring us to purchase such note may be surrendered for conversion only if such notice is withdrawn in accordance with the indenture.

Conversion Upon Occurrence of Certain Corporate Transactions

If we are party to a consolidation, merger or binding share exchange or a transfer of all or substantially all of our assets or if a fundamental change (as defined below) occurs, a note may be surrendered for conversion at any time from and after the date which is 15 days prior to the anticipated effective date of the transaction until (but not including) the date that is 15 days after the actual effective date of such transaction, and at the effective date, the right to convert a note described above will be changed into a right to convert it into the kind and amount of securities, cash or other assets of our company or another person which the holder would have received if the holder had converted the holder's notes immediately prior to the transaction. If the transaction also constitutes a fundamental change of our company, the holder can require us to purchase all or a portion of such holder's notes as described under Repurchase of the Notes by Us at the Option of Holders Upon a Fundamental Change.

Notwithstanding the foregoing, notes will not become convertible by reason of a merger, consolidation or other transaction effected with one of our direct or indirect subsidiaries for the purpose of changing our state of incorporation to any other state within the United States or the District of Columbia.

The notes will also be convertible upon the occurrence of certain distributions resulting in an adjustment to the conversion price as described above.

Redemption of Notes at Our Option

No sinking fund is provided for the notes. Prior to May 16, 2011, we cannot redeem the notes at our option. Beginning on May 16, 2011, we may redeem the notes for cash, as a whole at any time or from time to time in part. We will give not less than 30 days or more than 60 days notice of redemption by mail to holders of the notes.

If redeemed at our option, the notes will be redeemed at a redemption price equal to the sum of the issue price and the accrued original issue discount, plus accrued and unpaid interest and liquidated damages, if any.

The table below shows the redemption prices of a note on May 16, 2011, on each May 16 thereafter prior to maturity and at maturity on May 16, 2034 (assuming there is no accrued and unpaid interest or liquidated damages). In addition, the redemption price of a note that is redeemed between the dates listed below would include an additional

amount reflecting the original issue discount that has accrued on such note since the immediately preceding date in the table below.

Table of Contents

Redemption Date	(1) Note Issue Price	(2) Accrued Original Issue Discount	(3) Redemption Price (1) + (2)
May 16,			
2011	\$ 580.98	\$ 0.00	\$ 580.98
2012	580.98	13.88	594.86
2013	580.98	28.09	609.07
2014	580.98	42.64	623.62
2015	580.98	57.54	638.52
2016	580.98	72.80	653.78
2017	580.98	88.42	669.40
2018	580.98	104.41	685.39
2019	580.98	120.79	701.77
2020	580.98	137.55	718.53
2021	580.98	154.72	735.70
2022	580.98	172.30	753.28
2023	580.98	190.29	771.27
2024	580.98	208.72	789.70
2025	580.98	227.59	808.57
2026	580.98	246.90	827.88
2027	580.98	266.68	847.66
2028	580.98	286.93	867.91
2029	580.98	307.67	888.65
2030	580.98	328.90	909.88
2031	580.98	350.64	931.62
2032	580.98	372.90	953.88
2033	580.98	395.69	976.67
At stated maturity	\$ 580.98	\$ 419.02	\$ 1,000.00

If we redeem less than all of the outstanding notes, the trustee will select the notes to be redeemed in principal amounts at maturity of \$1,000 or integral multiples of \$1,000. In this case, the trustee may select the notes by lot, pro rata or by any other method the trustee considers fair and appropriate. If a portion of a holder's notes is selected for partial redemption and the holder converts a portion of the notes, the converted portion will be deemed to be part of the portion of notes selected for redemption.

Purchase of Notes by Us at the Option of the Holder for Cash

On the purchase dates of May 16, 2011, May 16, 2014, May 16, 2019, May 16, 2024, and May 16, 2029, we may, at the option of the holder, be required to purchase for cash, at the purchase price set forth below plus accrued but unpaid cash interest and liquidated damages, if any, to the purchase date, all or a portion of such holder's outstanding notes for which a written purchase notice has been properly delivered and not withdrawn, subject to certain additional conditions. Holders may submit their written purchase notice to the paying agent at any time from the opening of business on the date that is 20 business days prior to the purchase date until the close of business on the business day immediately preceding such purchase date.

The purchase price of a note will be:

\$580.98 per note on May 16, 2011;

\$623.62 per note on May 16, 2014;

\$701.77 per note on May 16, 2019;

\$789.70 per note on May 16, 2024; and

\$888.65 per note on May 16, 2029.

Table of Contents

The above purchase prices reflect a price equal to the sum of the issue price and accrued original issue discount, if any, on such notes as of the applicable purchase date.

We will be required to give notice on a date not less than 20 business days prior to each purchase date to all holders at their addresses shown in the register of the registrar, and to beneficial owners as required by applicable law, stating among other things:

the amount of the purchase price; and

the procedures that holders must follow to require us to purchase their notes.

The purchase notice given by each holder electing to require us to purchase notes shall state:

the certificate numbers of the holder's notes to be delivered for purchase;

the portion of the principal amount at maturity of notes to be purchased, which amount must be \$1,000 or an integral multiple of \$1,000; and

that the notes are to be purchased by us pursuant to the applicable provisions of the notes.

A holder may withdraw any purchase notice by delivering a written notice of withdrawal delivered to the paying agent prior to the close of business on the business day prior to the purchase date. The notice of withdrawal must state:

the principal amount at maturity being withdrawn;

the certificate numbers of the notes being withdrawn; and

the principal amount at maturity, if any, of the notes that remain subject to the purchase notice.

In connection with any purchase offer, we will, if required:

comply with the provisions of Rule 13e-4, Rule 14e-1 and any other tender offer rules under the Securities Exchange Act of 1934 which may then be applicable; and

file Schedule TO or any other required schedule under the Securities Exchange Act of 1934.

Payment of the purchase price for a note for which a purchase notice has been delivered and not validly withdrawn is conditioned upon delivery of the note, together with necessary endorsements, to the paying agent at any time after delivery of the purchase notice. Payment of the purchase price for the note will be made promptly following the later of the purchase date and the time of delivery of the note.

If the paying agent holds money or securities sufficient to pay the purchase price of the note on the business day following the purchase date in accordance with the terms of the indenture, then, immediately after the purchase date, the note will cease to be outstanding and cash interest or original issue discount on such note will cease to accrue, whether or not the note is delivered to the paying agent. Thereafter, all other rights of the holder will terminate, other than the right to receive the purchase price upon delivery of the note.

No notes may be purchased at the option of holders if there has occurred and is continuing an event of default with respect to the notes, other than a default in the payment of the purchase price with respect to such notes.

Repurchase of the Notes at the Option of Holders upon a Fundamental Change

If a fundamental change (as defined below in this section) occurs at any time, each holder will have the right, at the holder's option, subject to the terms and conditions of the indenture, to require us to repurchase all or

Table of Contents

any portion of the holder's notes on a repurchase date that is no later than 30 days after the date of our notice of the fundamental change. However, the principal amount at maturity submitted for purchase by a holder must be \$1,000 or an integral multiple of \$1,000. The price we are required to pay is equal to the sum of the issue price and accrued original issue discount plus accrued but unpaid cash interest and liquidated damages, if any.

A fundamental change will be deemed to have occurred upon a change of control event or a termination of trading (as defined below).

Under the indenture, a change in control event of our company will be deemed to have occurred:

upon the adoption of a plan relating to our liquidation or dissolution;

upon any going private transaction with respect to our common stock under Rule 13e-3 of the Securities Exchange Act of 1934;

if any person or group (as such terms are used in Section 13(d) and 14(d) of the Securities Exchange Act of 1934) acquires in one or more transactions an amount of our common stock which is at the time great enough to result in our common stock being delisted from the NASDAQ National Market or the principal United States national securities exchange on which the shares are then listed;

if any person or group (as such terms are used in Section 13(d) and 14(d) of the Securities Exchange Act of 1934), other than our company, its subsidiaries, their employee benefit plans, or any combination of the foregoing, becomes the beneficial owner of more than 50% of the aggregate voting power of our capital stock entitled generally to elect at least a majority of our directors; or

if our company is consolidated with, or merged into, another person or such other person is merged into our company, or all or substantially all of our and our subsidiaries' assets, taken as a whole, are sold, leased, transferred, conveyed or otherwise disposed of (other than by way of merger or consolidation), in one or a series of related transactions, to any person or group (as such terms are used in Section 13(d) and 14(d) of the Securities Exchange Act of 1934) (in each case, other than a transaction pursuant to which the holders of 50% or more of the total voting power of all shares of our capital stock entitled to vote generally in the election of directors immediately prior to such transaction have, directly or indirectly, at least 50% of the total voting power of all capital stock of the continuing, surviving and/or acquiring corporation entitled to vote generally in the election of directors of such continuing, surviving and/or acquiring corporation immediately after such transaction).

A change in control will not be deemed to have occurred if, in the case of a merger or consolidation, at least 90% of the consideration (excluding cash payments for fractional shares and cash payments made pursuant to dissenters' appraisal rights) in a merger or consolidation otherwise constituting a change in control consists of shares of common stock, depositary receipts, ordinary shares or other certificates representing common equity interests traded on a U.S. national securities exchange or quoted on the NASDAQ National Market, or will be so traded or quoted immediately following such merger or consolidation, and as a result of such merger or consolidation the notes become convertible into such common stock, depositary receipts, ordinary shares or other certificates representing common equity interests.

A termination of trading will be deemed to have occurred if our common stock or other common stock into which the notes are convertible is neither listed for trading on a United States national securities exchange nor approved for listing on the NASDAQ National Market or any similar United States system of automated dissemination of quotations of securities prices, and no American Depositary Shares or similar instruments for such common stock are so listed or approved for listing in the United States.

However, notwithstanding the foregoing, a holder will not have the right to require us to repurchase its notes if the sale price per share of our common stock for any five trading days within the period of ten consecutive trading days ending immediately after the later of the fundamental change or the public announcement of the

Table of Contents

fundamental change equals or exceeds 110% of the conversion price of the notes in effect on each of those five trading days.

If a fundamental change occurs and all of the consideration for the common stock in the transaction or transactions constituting the fundamental change consists of cash, which we will refer to as a cash buy-out, we will pay a make-whole premium to the holders of the notes in addition to the fundamental change repurchase price of the notes on the date of repurchase.

The make-whole premium per note will equal (a) the average of the closing trading price of a note for the five trading days immediately prior to our public announcement of the cash buy-out, less (b) the greater of (i) the sum of the issue price and accrued original issue discount and (ii) the product of (x) the average closing prices of our common stock for the five trading days immediately prior to our public announcement of the cash buy-out and (y) the applicable conversion rate; and the make-whole premium will be payable in cash or common stock at our option. The make-whole premium, if any, will not be less than zero.

The closing trading price, for purposes of calculating the make-whole premium, on any date of determination means the average of the secondary market bid quotations per note obtained by the trustee for \$2.5 million principal amount at maturity of the notes at approximately 4:00 p.m., New York City time, on such determination date from three independent nationally recognized securities dealers we select, provided that if three such bids cannot reasonably be obtained by the bid solicitation agent, but two bids are obtained, then the average of the two bids will be used, and if only one such bid can reasonably be obtained by bid solicitation agent, this one bid will be used. If the bid solicitation agent cannot reasonably obtain at least one bid for \$2.5 million principal amount of notes from a nationally recognized securities dealer or in our reasonable judgment, the bid quotations are not indicative of the secondary market value of the notes, then, for purposes of this section, the trading price per note will be deemed to be 98% of the product of the closing price of our common stock and the number of shares issuable upon conversion of such notes.

On or before the 15th day after we know or reasonably should have known that a fundamental change has occurred, we will provide to all holders of the notes and the trustee and paying agent a notice of the occurrence of the fundamental change and of the resulting repurchase right. This notice will state, among other things:

the events causing the fundamental change;

fundamental change repurchase date;

the date (or expected date) of such fundamental change;

the last date on which the repurchase right may be exercised;

the fundamental change repurchase price;

the fundamental change repurchase date;

the name and address of the paying agent and the conversion agent;

the conversion rate and any adjustments to the conversion rate resulting from such fundamental change;

that notes with respect to which a fundamental change repurchase notice is given by the holder may be converted only if the fundamental change repurchase notice has been withdrawn in accordance with the

terms of the indenture; and

the procedures that holders must follow to exercise these rights.

Simultaneously with providing such notice, we will publish a notice containing this information in a newspaper of general circulation in the City of New York or publish the information on our website or through such

Table of Contents

other public medium as we may use at that time.

If a holder elects to exercise its right to cause us to repurchase all or any portion of its notes, such holder must deliver to us or our designated agent, on or before the business day preceding the fundamental change repurchase date, subject to extension to comply with applicable law, the notes to be repurchased, duly endorsed for transfer, together with a written repurchase notice, to the paying agent. The repurchase notice must state:

if certificated, the certificate numbers of the notes to be delivered by the holder for repurchase, or if not certificated, the notice must comply with appropriate DTC procedures;

the portion of the principal amount at maturity of notes to be repurchased, which must be \$1,000 or an integral multiple thereof; and

that we are to purchase such notes pursuant to the applicable provisions of the notes and the indenture.

A holder may withdraw any repurchase notice (in whole or in part) by delivering a written notice of withdrawal to the paying agent prior to the close of business on the business day prior to the fundamental change repurchase date. The notice of withdrawal shall state:

the principal amount at maturity of the withdrawn notes;

if certificated notes have been issued, the certificate numbers of the withdrawn notes, or if not certificated, your notice must comply with appropriate DTC procedures; and

the principal amount at maturity, if any, which remains subject to the repurchase notice.

If a fundamental change results from a change of control event, as described above, instead of paying the repurchase price in cash we may elect to pay all or a portion of the repurchase price in shares of our common stock, or, in the case of a merger in which we are not the surviving corporation, common stock or American Depositary Shares of the surviving corporation or its direct or indirect parent corporation or a combination of the applicable securities and cash, at our option. The number of shares of the applicable common stock or securities a holder will receive will equal the relevant amount of the repurchase price divided by 97% of the average sale prices of the applicable common stock or securities for the five trading days immediately preceding the second business day immediately preceding the fundamental change repurchase date. However, we may not pay any portion of the repurchase price in the applicable common stock or securities or a combination of the applicable common stock or securities and cash, unless we satisfy certain conditions prior to the repurchase date as provided in the indenture, including:

registration of the shares of the applicable common stock or securities to be issued upon repurchase under the Securities Act of 1933 and the Securities Exchange Act of 1934, if required;

qualification of the shares of the applicable common stock or securities to be issued upon repurchase under applicable state securities laws, if necessary, or the availability of an exemption therefrom; and

listing of the applicable common stock or securities on a U.S. national securities exchange or quotation thereof on an inter-dealer quotation system of any registered U.S. national securities association.

We will comply with any applicable provisions of Rule 13e-4 and any other tender offer rules under the Securities Exchange Act of 1934 in the event of a fundamental change.

The repurchase rights of the holders could discourage a potential acquirer of Thoratec. The fundamental change repurchase feature, however, is not the result of management's knowledge of any specific effort:

to accumulate shares of common stock;

to obtain control of us by any means; or

Table of Contents

part of a plan by management to adopt a series of anti-takeover provisions.

The term fundamental change is limited to specified events and may not include other events that might adversely affect our financial condition. In addition, the requirement that we offer to repurchase the notes upon a fundamental change may not protect holders in the event of a highly leveraged transaction, reorganization, merger or similar transaction involving us.

No notes may be repurchased at the option of holders upon a fundamental change if there has occurred and is continuing an event of default with respect to the notes, other than an event of default that is cured by the payment of the fundamental change repurchase price of the notes.

The definition of fundamental change includes a phrase relating to the conveyance, transfer, sale or lease of substantially all of our properties and assets. There is no precise, established definition of the phrase substantially all under applicable law. Accordingly, the ability of a holder of the notes to require us to repurchase its notes as a result of the conveyance, transfer, sale, lease or other disposition of less than all of our properties and assets may be uncertain.

If a fundamental change were to occur, we may not have enough funds to pay the fundamental change repurchase price in cash. If we fail to repurchase the notes when required following a fundamental change, we will be in default under the indenture. In addition, we have, and may in the future incur, other indebtedness with similar change in control provisions permitting our holders to accelerate or to require us to repurchase our indebtedness upon the occurrence of similar events or on some specific dates.

Events of Default and Acceleration

The following are events of default under the indenture:

default in the payment of any principal amount (including accrued original issue discount) at maturity or any redemption price, purchase price, or fundamental change repurchase price due with respect to the notes, when the amount becomes due and payable, or default in the payment of the first six scheduled interest payments (unless due solely to the fault of the trustee in which case we have a three business day grace period);

default in payment of any interest (other than the first six scheduled interest payments) under the notes, which default continues for 30 days;

default in the delivery when due of all cash and any shares of common stock deliverable upon conversion of the notes, which default continues for 15 days;

our failure to comply with any of our other agreements in the notes or the indenture upon our receipt of notice of such default from the trustee or from holders of not less than 25% in aggregate principal amount at maturity of the notes then outstanding, and our failure to cure (or obtain a waiver of) such default within 60 days after we receive such notice;

default in the payment of principal when due or resulting in acceleration of other indebtedness for borrowed money of Thoratec or any of its significant subsidiaries where the aggregate principal amount with respect to which the default or acceleration has occurred exceeds \$10 million, and such acceleration has not been rescinded or annulled or such indebtedness repaid within a period of 25 days after written notice to us by the trustee or to us and the trustee by the holders of at least 25% in aggregate principal amount at maturity of the notes then outstanding, provided that if any such default is cured, waived, rescinded or annulled, then the

event of default by reason thereof would be deemed not to have occurred;

our failure to give you notice of your right to require us to repurchase your notes upon a fundamental

Table of Contents

change;

certain events of bankruptcy, insolvency or reorganization affecting us; and

the pledge agreement ceases to be in full force and effect, or enforceable, prior to the expiration thereof in accordance with its terms.

A significant subsidiary is any subsidiary that would constitute a significant subsidiary within the meaning of Article 1 of Regulation S-X under the Securities Act of 1933 as in effect on the date of the indenture.

If an event of default occurs, either the trustee or the holders of not less than 25% in aggregate principal amount at maturity of the notes then outstanding may declare the issue price of the notes plus the original issue discount on the notes accrued through the date of such declaration, and any accrued and unpaid cash interest through the date of such declaration immediately due and payable. In the case of certain events of bankruptcy, insolvency or reorganization, the issue price of the notes plus the original issue discount accrued thereon, together with any accrued but unpaid cash interest and liquidated damages through the date of occurrence of such event, will automatically become and be immediately due and payable without any further act by us, any holder or the trustee. At any time after a declaration of acceleration, the holders of a majority in aggregate principal amount at maturity of the notes then outstanding may, under certain circumstances, rescind and annul such acceleration.

In the event of a payment or covenant default with respect to the notes, the trustee, subject to certain limitations and conditions, may institute judicial proceedings to enforce the payment of any amount due or the performance of such covenant or any other proper remedy. Under certain circumstances, the trustee may withhold notice to the holders of the notes of a default (except in the payment of principal or interest) if the trustee in good faith determines that withholding notice is in the best interests of such holders, and the trustee may withhold such notice for certain defaults for a period of 30 days.

Obligations of Trustee

The indenture provides that, subject to the duty of the trustee during default to act with the required standard of care, the trustee is under no obligation to exercise any of its rights or powers under the indenture at the request or direction of any of the holders, unless such holders shall have offered to such trustee reasonable security or indemnity. Subject to such provisions for the indemnification of the trustee and to certain other conditions, the holders of a majority in aggregate principal amount at maturity of the notes then outstanding will have the right to direct the time, method and place of conducting any proceeding for any remedy available to the trustee, or exercising any trust or power conferred on such trustee, with respect to the notes. However, the trustee may decline to act if the holders direction violates any law or the indenture, would unduly prejudice the right of other holders or would subject the trustee to personal liability.

No holder of any notes will have any right to institute any proceeding with respect to the indenture, or for the appointment of a receiver or trustee or for any remedy, unless:

the holder has previously given the trustee written notice of a continuing event of default with respect to the notes;

the holders of not less than 25% in aggregate principal amount at maturity of the notes then outstanding have made written request, and offered reasonable indemnity, to the trustee to institute such proceeding as trustee;

the trustee has not received an inconsistent direction from the holders of a majority in principal amount at maturity of the outstanding notes within the 60 day period set forth below; and

the trustee has failed to institute the requested proceeding within 60 days after receipt of such notice.

However, a holder of notes will have an absolute right to receive payment of the principal (including accrued original issue discount) of and any interest on the notes on the due dates, and to institute suit for the

Table of Contents

enforcement of any such payment.

Under the indenture we must furnish to the trustee annually a statement regarding our performance of certain of our obligations under the indenture and as to any default in such performance.

Consolidation, Merger or Sale of Assets

The indenture provides that we may not consolidate with or merge into any person or convey, transfer or lease all or substantially all our property and assets to another person unless:

the resulting, surviving or transferee person is a corporation organized and existing under the laws of the United States, any state thereof or the District of Columbia, and such corporation, if other than us, assumes all our obligations under the notes, the indenture and the pledge agreement;

after giving effect to the transaction, no event of default, and no event that, after notice or passage of time, would become an event of default, has occurred and is continuing; and

other conditions described in the indenture are met.

Upon the assumption of our obligations by such corporation in such circumstances, subject to certain exceptions, we will be discharged from all obligations under the notes, the indenture and the pledge agreement. Although such transactions are permitted under the indenture, certain of the foregoing transactions occurring could constitute a fundamental change (as described above), permitting each holder to require us to repurchase the notes of such holder as described above. An assumption of our obligations under the notes and the indenture by such corporation might be deemed for United States federal income tax purposes to be an exchange of the notes for new notes by the holders thereof, resulting in recognition of gain or loss for such purposes and possibly other adverse tax consequences to the holders. Holders should consult their own tax advisors regarding the tax consequences of such an assumption.

There is no precise, established definition of the term substantially all of our property and assets under applicable law and accordingly there may be uncertainty as to whether the foregoing provision would apply to a sale or lease of less than all our assets.

Modification

The trustee and we may amend the indenture or the notes with the consent of the holders of not less than a majority in aggregate principal amount at maturity of the notes then outstanding. However, our consent and the consent of the holders of each outstanding note is required to:

alter the manner of calculation or rate of accrual of original issue discount or interest on any note or change the time of payment;

make any note payable in money or securities other than that stated in the note;

change the stated maturity of any note;

reduce the principal amount at maturity, restated principal amount, issue price, accrued original issue discount, redemption price, purchase price or fundamental change repurchase price with respect to any note;

make any change that adversely affects the rights of a holder to convert any note;

make any change that adversely affects the right to require us to purchase a note;

except as otherwise permitted under Consolidation, Merger or Sale of Assets, consent to the assignment or transfer by Thoratec of any of its rights and obligations under the indenture;

make any change to the obligation of Thoratec to repurchase all or any part of the notes in the event of

Table of Contents

a fundamental change in accordance with Repurchase of The Notes at the Option of Holders Upon a Fundamental Change, including amending, changing or modifying any definitions with respect thereto;

impair the right to institute suit for the enforcement of any payment with respect to the notes or with respect to conversion of the notes;

modify the provisions of the indenture or the pledge agreement relating to the pledge of securities as contemplated under Security above in a manner that adversely affects the interests of the holders of notes in any material respect;

modify the subordination provision of the notes in a manner adverse to the holders of the notes in any material respect; or

reduce the percentage in aggregate principal amount of notes outstanding necessary to modify or amend the indenture or to waive any past default.

Without the consent of any holder of notes, the trustee and we may amend the indenture:

to evidence a successor to us and the assumption by that successor of our obligations under the indenture and the notes;

to add to our covenants for the benefit of the holders of the notes or to surrender any right or power conferred upon us;

to secure our obligations in respect of the notes;

to add a guarantor;

to evidence and provide the acceptance of the appointment of a successor trustee under the indenture;

to comply with the requirements of the SEC in order to effect or maintain qualification of the indenture under the Trust Indenture Act of 1939, as amended, as contemplated by the indenture or otherwise;

to provide for conversion rights of holders of notes in the event of any reclassification or change of our common stock or any consolidation, merger or sale of all or substantially all of our property and assets occurs;

to increase the conversion rate, provided that the increase will not adversely affect the interests of the holders of notes;

to cure any ambiguity, omission, defect or inconsistency in the indenture; or

to make any change that does not adversely affect the rights of the holders of the notes in any material respect.

The holders of a majority in principal amount at maturity of the outstanding notes may, on behalf of all the holders of all notes:

waive compliance by us with restrictive provisions of the indenture, as detailed in the indenture; or

waive any past default under the indenture and its consequences, except a default in the payment of any amount due, or in the obligation to deliver common stock, with respect to any note or in respect of any provision which under the indenture cannot be modified or amended without the consent of the holder of each outstanding note affected.

Satisfaction and Discharge of the Indenture

Table of Contents

We may satisfy and discharge our obligations under the indenture by delivering to the trustee for cancellation all outstanding notes or by depositing with the trustee, the paying agent or the conversion agent, if applicable, after the notes have become due and payable, whether at stated maturity or any redemption date, or any purchase date, or a fundamental change repurchase date, or upon conversion or otherwise, cash or shares of common stock (as applicable under the terms of the indenture) sufficient to pay all of the outstanding notes and paying all other sums payable under the indenture.

Calculations in Respect of Notes

We or our agents are responsible for making all calculations called for under the notes. These calculations include, but are not limited to, determination of the average market prices of the notes and of our common stock and amounts of payments, if any, payable on the notes. We or our agents will make all these calculations in good faith and, absent manifest error, our or our agents' calculations are final and binding on holders of notes. We or our agents will provide a schedule of these calculations to the trustee, and the trustee is entitled to conclusively rely upon the accuracy of these calculations without independent verification.

Limitations of Claims in Bankruptcy

If a bankruptcy proceeding is commenced in respect of Thoratec, the claim of a holder of a note is, under Title 11 of the United States Code, limited to the issue price of the note plus that portion of the original issue discount, together with any unpaid cash interest and unliquidated damages, if any, that has accrued from the date of issue to the commencement of the proceeding.

Global Notes; Book Entry; Form

We initially issued the notes in the form of one or more global securities. The global security was deposited with the trustee as custodian for DTC and registered in the name of a nominee of DTC. Except as set forth below, the global security may be transferred, in whole and not in part, only to DTC or another nominee of DTC. You will hold your beneficial interests in the global security directly through DTC if you have an account with DTC or indirectly through organizations that have accounts with DTC. Notes in definitive certificated form (called "certificated securities") will be issued only in certain limited circumstances described below.

DTC has advised us that it is:

- a limited purpose trust company organized under the laws of the State of New York;

- a member of the Federal Reserve System;

- a clearing corporation within the meaning of the New York Uniform Commercial Code; and

- a clearing agency registered pursuant to the provisions of Section 17A of the Securities Exchange Act of 1934.

DTC was created to hold securities of institutions that have accounts with DTC (called "participants") and to facilitate the clearance and settlement of securities transactions among its participants in such securities through electronic book-entry changes in accounts of the participants, thereby eliminating the need for physical movement of securities certificates. DTC's participants include securities brokers and dealers, which may include the initial purchaser, banks, trust companies, clearing corporations and certain other organizations. Access to DTC's book-entry system is also available to others such as banks, brokers, dealers and trust companies (called, the "indirect participants") that clear through or maintain a custodial relationship with a participant, whether directly or indirectly.

We believe that, pursuant to procedures established by DTC, upon the deposit of the global security with DTC, DTC has credited, on its book-entry registration and transfer system, the principal amount of notes represented by such global security to the accounts of participants. The accounts credited were designated by the initial purchaser. Ownership of beneficial interests in the global security will be limited to participants or persons that may hold interests through participants. Ownership of beneficial interests in the global security will be shown on, and the

Table of Contents

transfer of those beneficial interests will be effected only through, records maintained by DTC (with respect to participants' interests), the participants and the indirect participants. The laws of some jurisdictions may require that certain purchasers of securities take physical delivery of such securities in definitive form. These limits and laws may impair the ability to transfer or pledge beneficial interests in the global security.

Owners of beneficial interests in global securities who desire to convert their interests into common stock should contact their brokers or other participants or indirect participants through whom they hold such beneficial interests to obtain information on procedures, including proper forms and cut-off times, for submitting requests for conversion.

So long as DTC, or its nominee, is the registered owner or holder of a global security, DTC or its nominee, as the case may be, will be considered the sole owner or holder of the notes represented by the global security for all purposes under the indenture and the notes. In addition, no owner of a beneficial interest in a global security will be able to transfer that interest except in accordance with the applicable procedures of DTC. Except as set forth below, as an owner of a beneficial interest in the global security, you will not be entitled to have the notes represented by the global security registered in your name, will not receive or be entitled to receive physical delivery of certificated securities and will not be considered to be the owner or holder of any notes under the global security. We understand that, under existing industry practice, if an owner of a beneficial interest in the global security desires to take any action that DTC, as the holder of the global security, is entitled to take, DTC would authorize the participants to take such action. Additionally, in such case, the participants would authorize beneficial owners owning through such participants to take such action or would otherwise act upon the instructions of beneficial owners owning through them.

We will make payments of principal of, premium, if any, and interest (including any liquidated damages) on, the notes represented by the global security registered in the name of and held by DTC or its nominee to DTC or its nominee, as the case may be, as the registered owner and holder of the global security. Neither we, the trustee nor any paying agent has any responsibility or liability for any aspect of the records relating to or payments made on account of beneficial interests in the global security or for maintaining, supervising or reviewing any records relating to such beneficial interests.

We expect that DTC or its nominee, upon receipt of any payment of principal of, and premium, if any, or interest (including liquidated damages) on, the global security, will credit participants' accounts with payments in amounts proportionate to their respective beneficial interests in the principal amount of the global security as shown on the records of DTC or its nominee. We also expect that payments by participants or indirect participants to owners of beneficial interests in the global security held through such participants or indirect participants will be governed by standing instructions and customary practices and will be the responsibility of such participants or indirect participants. We will not have any responsibility or liability for any aspect of the records relating to, or payments made on account of, beneficial interests in the global security for any note or for maintaining, supervising or reviewing any records relating to such beneficial interests or for any other aspect of the relationship between DTC and its participants or indirect participants or the relationship between such participants or indirect participants and the owners of beneficial interests in the global security owning through such participants.

Transfers between participants in DTC will be effected in the ordinary way in accordance with DTC rules and will be settled in same-day funds.

DTC has advised us that it will take any action permitted to be taken by a holder of notes only at the direction of one or more participants to whose account the DTC interests in the global security is credited and only in respect of such portion of the aggregate principal amount of notes as to which such participant or participants has or have given such direction. However, if DTC notifies us that it is unwilling to be a depositary for the global security or ceases to

be a clearing agency and we do not appoint a successor depositary or clearing agency within 90 days after receiving the notice from DTC or becoming aware that DTC is no longer a clearing agency or there is an event of default under the notes, DTC will exchange the global security for certificated securities which it will distribute to its participants.

Although DTC is expected to follow the foregoing procedures in order to facilitate transfers of interests in the global security among participants of DTC, it is under no obligation to perform or continue to perform such procedures, and such procedures may be discontinued at any time. Neither we nor the trustee will have any

Table of Contents

responsibility, or liability for the performance by DTC or the participants or indirect participants of their respective obligations under the rules and procedures governing their respective operations.

We have obtained the information in this section from sources we believe to be reliable, but we take no responsibility for its accuracy.

Governing Law

The indenture and the notes are governed by, and construed in accordance with, the laws of the State of New York.

Information Concerning the Trustee

U.S. Bank National Association is the trustee and the initial registrar, paying agent, bid solicitation agent and conversion agent under the indenture for the notes. The trustee may resign or be removed and a successor trustee may be appointed.

The indenture and provisions of the Trust Indenture Act incorporated by reference in the indenture contain limitations on the rights of the trustee under the indenture, should it become a creditor of our company, to obtain payment of claims in certain cases or to realize on certain property received by it in respect of any such claims, as security or otherwise. The trustee under the indenture is permitted to engage in other transactions with us. However, if the trustee under the indenture acquires any prohibited conflicting interest, it must eliminate the conflict or resign.

Registration Rights

We entered into a registration rights agreement with the initial purchaser dated as of the date of first issuance of the notes.

Pursuant to the registration rights agreement, we agreed, at our expense, to file with the SEC not later than 90 days after the date of original issuance of any of the notes (the "S-3 filing deadline"), subject to certain conditions set forth below, a shelf registration statement on such form as we deem appropriate covering resales by holders of all notes and the common stock issuable upon conversion of the notes. We agreed to use our reasonable best efforts to:

- cause such registration statement to become effective as promptly as is practicable, but in no event later than 180 days after the earliest date of original issuance of any of the notes; and

- keep the registration statement effective until the earlier of (1) the sale pursuant to the shelf registration statement of the notes and all of the shares of common stock issuable upon conversion of the notes, and (2) the date when the holders

(other than holders that are affiliates of Thoratec) of the notes and the common stock issuable upon conversion of the notes are able to sell all such securities immediately without restriction pursuant to the volume limitation provisions of Rule 144 under the Securities Act of 1933 or any successor rule thereto or otherwise.

We agreed to provide to each registered holder copies of the prospectus, notify each registered holder when the shelf registration statement has become effective and take certain other actions as are required to permit unrestricted resales of the notes and the common stock issuable upon conversion of the notes. A holder who sells those securities pursuant to the shelf registration statement will be required to be named as a selling securityholder in the related prospectus and to deliver a prospectus to purchasers, and will be bound by the provisions of the registration rights agreement which are applicable to that holder, including certain indemnification provisions. If a shelf registration statement naming the holder and covering those securities is not effective, they may not be sold or otherwise transferred except in accordance with the provisions set forth under Transfer Restrictions.

We agreed to give notice to all holders of the filing and effectiveness of the shelf registration statement. Attached to this prospectus as Annex A is a form of notice and questionnaire to be completed and delivered by a holder of notes prior to any intended distribution of registrable securities pursuant to the shelf registration statement. In order to be named as a selling security holder in the related prospectus at the time of effectiveness, the holder must complete and deliver the notice and questionnaire to us within 20 days of the holder's receipt of notice from us

Table of Contents

of the filing of the registration statement. After the shelf registration statement has been declared effective, upon receipt of any completed questionnaire, together with such other information as we may reasonably request from a holder of such notes, we will use our reasonable best efforts to file within 15 business days such amendments to the shelf registration statement or supplements to the related prospectus as are necessary to permit such holder to deliver such prospectus to purchasers of registrable securities, subject to our right to suspend the use of the prospectus as discussed below. Any holder that does not complete and deliver a questionnaire or provide such other information will not be named as a selling securityholder in the prospectus and therefore will not be permitted to sell any registrable securities pursuant to the shelf registration statement.

We will be permitted to suspend the use of the prospectus that is part of the shelf registration statement under certain circumstances relating to pending corporate developments, public filings with the SEC and similar events for a period not to exceed 45 days in any three-month period and not to exceed an aggregate of 120 days in any twelve month period. We need not specify the nature of the event giving rise to a suspension in any notice of a suspension provided to the holders.

If:

on the day following the S-3 filing deadline, the shelf registration statement has not been filed with the SEC;

the shelf registration statement has not become effective within 180 days after the earliest date of original issuance of any note;

the registration statement shall cease to be effective or fail to be usable without being succeeded within seven business days by a post-effective amendment or a report filed with the SEC pursuant to the Securities Exchange Act of 1934 that cures the failure of the registration statement to be effective or usable; or

the prospectus has been suspended as described in the preceding paragraph longer than the period permitted by such paragraph,

(each a registration default), additional interest as liquidated damages will accrue on the notes, from and including the day following the registration default to but excluding the day on which the registration default has been cured. Liquidated damages will be paid semi-annually in arrears, with the interest payment due on the first interest payment date following the date on which such liquidated damages begin to accrue, and will accrue at an additional rate per year equal to:

0.25% of the principal amount at maturity of the notes to and including the 90th day following such registration default; and

0.50% of the principal amount at maturity of the notes from and after the 91st day following such registration default.

In no event will liquidated damages accrue at a rate per year exceeding 0.50%. We will have no other liabilities for monetary damages with respect to any registration default. If a holder has converted some or all of its notes into common stock, the holder will not be entitled to receive any liquidated damages with respect to such common stock or the principal amount of the notes converted.

DESCRIPTION OF CAPITAL STOCK

Our authorized capital stock consists of 100,000,000 shares of common stock, no par value, and 2,500,000 shares of preferred stock, no par value.

Common Stock

As of May 26, 2005, there were 48,975,575 shares of our common stock outstanding.

Table of Contents

Dividends. Thoratec common shareholders are entitled to receive ratably such dividends, if any, as may be declared from time to time by the Board of Directors out of funds legally available for dividend payments, subject to the preferences that may be applicable to any outstanding shares of preferred stock.

Voting. Holders of our common stock are entitled to one vote for each share held on all matters submitted to a vote of shareholders, including the election of directors. A majority vote of the shares present or represented by proxy is required for Thoratec shareholders to take action on all matters.

Preemptive Rights, Conversion and Redemption. The common stock is not entitled to preemptive or conversion rights and is not subject to redemption or sinking fund provisions.

Liquidation, Dissolution and Winding-up. Upon our liquidation, dissolution or winding-up, the holders of common stock are entitled to share ratably in all assets remaining after payment of liabilities, subject to the prior liquidation rights of any outstanding shares of preferred stock.

Preferred Stock

Our Board of Directors is authorized, without action by the shareholders, to designate and issue up to 2,500,000 shares of preferred stock in one or more series. Subject to the California Corporation Law, our Board of Directors may:

fix the rights, preferences, privileges and restrictions on these shares,

fix the number of shares and designation of any series, and

increase or decrease the number of shares of any series if not below the number of outstanding shares.

As of May 26, 2005, there were no shares of Thoratec preferred stock outstanding. Although we currently do not intend to do so, our Board of Directors may issue preferred stock with voting and conversion rights, which could negatively affect the voting power or other rights of the common shareholders without shareholder approval. The issuance of preferred stock may delay or prevent a change in control of Thoratec.

Our articles of incorporation designate 540,541, no par value per share, shares of preferred stock, no par value per share, as Series A Preferred Stock and 500,00 shares of preferred stock as Series B Preferred Stock. These shares are entitled to receive quarterly dividends, a liquidation preference, and certain voting rights, and are subject to redemption and conversion rights. There are no shares of Series A Preferred Stock or Series B Preferred Stock issued and outstanding and we do not anticipate issuing any such shares.

Our articles of incorporation designate 100,000 no par shares of preferred stock as Series RP preferred stock in connection with Thoratec's rights plan, as described below. These shares, if issued, will be entitled to receive quarterly dividends and a liquidation preference. There are no shares of Series RP preferred stock issued and outstanding and we do not anticipate issuing any shares of Series RP preferred stock except as may be required under the rights plan.

Shareholder Rights Plan

On May 2, 2002, we adopted a shareholder rights plan to protect our shareholders in the event of a proposed or actual acquisition of 15% or more of the outstanding shares of our common stock. Under the rights plan, we distributed one purchase right for each share of common stock outstanding at the close of business on May 17, 2002. If a person or group acquires 15% or more of our common stock in a transaction not pre-approved by our Board of Directors, each right will entitle its holder, other than the acquirer, to buy our common stock at 50% of its market

value for the rights then current exercise price (initially \$70.00). In addition, if an unapproved party acquires more than 15% of our common stock, and our company or our business is later acquired by the unapproved party or in a transaction in which all shareholders are not treated alike, shareholders with unexercised rights, other

Table of Contents

than the unapproved party, will be entitled to purchase common stock of the merger party or asset buyer with a value of twice the exercise price of the rights. Each right also becomes exercisable for one one-thousandth of a share of our Series RP preferred stock at the right's then current exercise price ten days after an unapproved third party makes, or announces an intention to make, a tender offer or exchange offer that, if completed, would result in the unapproved party acquiring 15% or more of our common stock. Our Board of Directors may redeem the rights for a nominal amount before an event that causes the rights to become exercisable. The rights will expire on May 2, 2012.

Articles of Incorporation and Bylaws

Preferred Stock. Under our articles of incorporation, the Board of Directors has the power to authorize the issuance of up to 2,500,000 shares of preferred stock and to determine the price, rights, preferences, privileges and restrictions, including voting rights, of those shares without further vote or action by the shareholders. The issuance of preferred stock may:

delay, defer or prevent a change in control;

discourage bids for the common stock at a premium over the market price of our common stock;

adversely affect the voting and other rights of the holders of our common stock; and

discourage acquisition proposals or tender offers for our shares and, as a consequence, inhibit fluctuations in the market price of our shares that could result from actual or rumored takeover attempts.

Special Meeting Requirements. Our bylaws provide that special meetings of shareholders may be called at the request of the Board of Directors, the Chairman of the Board of Directors, the President, or the holder of shares entitled to cast not less than one-tenth of the votes at the meeting.

Cumulative Voting. Our bylaws provide for cumulative voting in the election of directors. At every election of directors, shareholders may cumulate votes and give one candidate a number of votes equal to the number of directors to be elected multiplied by the number of votes to which the shares are entitled or distribute votes according to the same principle among as many candidates as desired. No shareholder is entitled to cumulate votes for any one or more candidates unless such candidate or candidates' names have been placed in nomination prior to the voting and at least one shareholder has given notice at the meeting prior to the voting of the shareholder's intention to cumulate votes.

These provisions may deter a hostile takeover or delay a change in control or management of Thoratec.

Transfer Agent and Registrar

The transfer agent and registrar for our common stock is Computershare Trust Company, Inc.

NASDAQ National Market Listing

Our common stock is listed on the NASDAQ National Market under the symbol THOR.

MATERIAL UNITED STATES FEDERAL INCOME TAX CONSIDERATIONS

The following summary discusses certain material U.S. federal income tax (and in the case of non-U.S. holders, as defined below, certain U.S. federal estate tax) consequences relating to the purchase, ownership, and disposition of the notes and common stock into which the notes may be converted. Except where noted, this summary deals only

with notes and common stock held as capital assets and is applicable only to initial purchasers of notes who purchase the notes for an amount of cash equal to the initial offering price of such notes. This summary does not address any state, local or foreign tax consequences. In addition, this summary does not deal with special situations, such as:

Table of Contents

tax consequences to holders who may be subject to special tax treatment, such as dealers in securities or currencies, banks, financial institutions, insurance companies, tax-exempt entities and traders in securities that elect to use a mark-to-market method of accounting for their securities holdings;

tax consequences to persons holding notes or common stock as part of a hedging, integrated, constructive sale or conversion transaction or a straddle;

tax consequences to U.S. holders (as defined below) whose functional currency is not the U.S. dollar; or

alternative minimum tax consequences.

If a partnership holds notes or common stock, the tax treatment of a partner in the partnership will generally depend upon the status of the partner and the activities of the partnership. If you are a partner of a partnership holding notes or common stock, you should consult your tax advisor.

The discussion below is based upon the provisions of the Internal Revenue Code of 1986, as amended (the Code), and U.S. Treasury regulations, rulings and judicial decisions as of the date hereof. Those authorities may be changed, perhaps retroactively, so as to result in U.S. federal income tax consequences different from those discussed below. There can be no assurance that the Internal Revenue Service (the IRS) will not challenge one or more of the tax consequences discussed herein.

IF YOU ARE CONSIDERING THE PURCHASE OF NOTES, YOU SHOULD CONSULT YOUR OWN TAX ADVISORS REGARDING THE U.S. FEDERAL INCOME TAX CONSEQUENCES TO YOU OF THE PURCHASE, OWNERSHIP AND DISPOSITION OF THE NOTES AND COMMON STOCK IN LIGHT OF YOUR PARTICULAR SITUATION, AND REGARDING ANY TAX CONSEQUENCES ARISING UNDER THE LAWS OF ANY OTHER JURISDICTION.

U.S. Holders

The following is a summary of certain material U.S. federal income tax consequences that will apply to you if you are a U.S. holder. A U.S. holder means a beneficial owner of a note or common stock that is:

a citizen or resident alien individual of the United States;

a corporation (or any entity treated as a corporation for U.S. federal income tax purposes) created or organized in or under the laws of the United States or any political subdivision of the United States;

an estate the income of which is subject to U.S. federal income taxation regardless of its source; or

a trust if it (1) is subject to the primary supervision of a court within the United States and one or more U.S. persons have the authority to control all substantial decisions of the trust or (2) has a valid election in effect under applicable U.S. Treasury regulations to be treated as a U.S. person.

Original Issue Discount

The notes have original issue discount (OID) for U.S. federal income tax purposes, and accordingly, you will be subject to special rules relating to the accrual of income for such purposes. You generally must include OID in gross income for U.S. federal income tax purposes on an annual basis under a constant yield accrual method, as described below, regardless of your regular method of tax accounting. As a result, you will be required to include OID in income in advance of the receipt of cash attributable to that income.

The notes will be treated as issued with OID equal to the excess of a note's stated redemption price at maturity over its issue price. The issue price is the first price at which a substantial amount of notes are sold for money (excluding sales to bond houses, brokers or similar persons or organizations acting as underwriters,

Table of Contents

placement agents or wholesalers). The stated redemption price at maturity of a note will include all payments of principal and cash interest on the note. Because the notes provide for payment of cash interest only through 2011, the cash interest will be included in the stated redemption price at maturity and accordingly taxed to you as part of the OID accrued on the note, as described below. That cash interest will not be again included separately in your gross income when accrued or paid, regardless of your method of accounting for tax purposes. In each year after 2010, you will recognize OID, regardless of whether you receive cash interest.

The amount of OID includible in your income is the sum of the daily portions of OID with respect to the note for each day during the taxable year or portion thereof in which you hold the note (accrued OID). A daily portion is determined by allocating to each day in any accrual period a pro rata portion of the OID that accrued in that period. The accrual period of a note may be of any length and may vary in length over the term of the note, provided that each accrual period is no longer than one year and each scheduled payment of principal or interest occurs either on the first or last day of an accrual period. The amount of OID that accrues with respect to any accrual period is the product of the note's adjusted issue price at the beginning of the accrual period and its yield to maturity, determined on the basis of compounding at the close of each accrual period and properly adjusted for the length of the period. The adjusted issue price of a note at the start of any accrual period is equal to its issue price, increased by the accrued OID for each prior accrual period and reduced by any payments of cash interest and principal made on such note.

As described under *Description of Notes* *Registration Rights*, we may be required to make payments of liquidated damages to the holders of the notes if we do not file a registration statement, or use our reasonable best efforts to cause that registration statement to be declared effective and to remain effective. We intend to take the position that the possibility of any payment of liquidated damages does not affect the determination of the yield to maturity of the notes or give rise to any additional accrual of original issue discount or recognition of ordinary income upon the exchange, sale or redemption of a note. This position is based in part on a determination that as of the date of issuance of the notes, the possibility that liquidated damages will have to be paid is a remote or incidental contingency within the meaning of applicable U.S. Treasury regulations. Our determination that this possibility is a remote or incidental contingency is binding on you, unless you explicitly disclose that you are taking a different position to the IRS on your tax return for the year during which you acquire the note. However, the IRS may take a contrary position from that described above, which could affect the timing and character of both your income from the notes and our deduction with respect to the payments of liquidated damages. If we are required to make any payments of liquidated damages, the amount of OID that accrues with respect to subsequent accrual periods may increase.

You should consult your own tax advisors concerning the appropriate tax treatment of the payment of liquidated damages with respect to the notes in the event that we are required to make these payments to you.

Sale, Exchange, Redemption, Repurchase or other Disposition of Notes

You generally will recognize gain or loss upon the sale, exchange, redemption, repurchase or other disposition of a note equal to the difference between the amount realized upon the sale, exchange, redemption, repurchase or other disposition and your adjusted tax basis in the note. Your adjusted tax basis in a note will be equal to the amount paid for the note, increased by the amount of OID previously included in income (including in the tax year of disposition) and decreased by the amount of payments of cash interest and principal. Any gain or loss recognized on a disposition of the note will be capital gain or loss. If you are a noncorporate U.S. holder, including an individual, and have held the note for more than one year, capital gain will be subject to tax at a maximum rate of 15% through December 31, 2008. As of January 1, 2009, the maximum capital gains rate will revert to 20%. Your ability to deduct capital losses may be limited.

Conversion of Notes

You generally will not recognize any income, gain or loss upon the conversion of a note solely into common stock. If you receive cash in lieu of a fractional share of common stock, however, you will be treated as if you received the fractional share and we then redeemed the fractional share for cash. You will recognize gain or loss equal to the difference between the cash received and the portion of your basis in the stock attributable to the

Table of Contents

fractional share. Your aggregate basis in the common stock received (including any fractional share deemed received) will equal your adjusted basis in the note. Your holding period for the stock will include the period during which you held the note.

If you receive solely cash upon the conversion of a note, you will recognize gain or loss equal to the difference between the amount realized and your adjusted tax basis in the note. Such gain or loss will be capital gain or loss. As discussed above under Sale, Exchange, Redemption, Repurchase or other Disposition of Notes, long-term capital gain of a noncorporate U.S. holder will be subject to a reduced rate of taxation. Your ability to deduct capital losses may be limited.

If you receive a combination of cash and common stock upon a conversion (and such cash is not merely received in lieu of a fractional share of common stock), you will be required to recognize gain in an amount equal to the lesser of (1) the cash received (other than cash attributable to accrued and unpaid interest) or (2) the excess of the fair market value of the common stock and cash (other than cash attributable to accrued and unpaid interest) received upon conversion over your adjusted tax basis in the note at the time of conversion. You generally will not be permitted to recognize any loss realized upon such a conversion. Your tax basis in the common stock received will be the same as your tax basis in the note, reduced by the amount of cash received (other than cash received in lieu of a fractional share) and increased by the amount of gain recognized (other than gain recognized with respect to a fractional share).

Constructive Dividends

The conversion price of the notes will be adjusted in certain circumstances as described in the section titled Description of Notes Conversion Rights. Under Section 305(c) of the Code, adjustments (or failures to make adjustments) that have the effect of increasing your proportionate interest in our assets or earnings may in some circumstances result in a taxable deemed distribution to you. Any deemed distribution to you will be subject to U.S. federal income tax in the same manner as an actual distribution received by you, as described under Dividends on Common Stock below.

For example, if at any time we make a distribution of property to holders of our common stock that would be taxable to the shareholders as a dividend for U.S. federal income tax purposes and, in accordance with the provisions of the notes dealing with adjustment of the conversion price, the conversion rate of the notes is increased, this increase may be deemed to be the payment of a taxable dividend (to the extent of our current or accumulated earnings and profits) to the holder of the note. However, in general, an increase in the conversion rate in the event of stock dividends or the distribution of rights to subscribe for common stock will not be so treated. In certain circumstances, the failure to make an adjustment to the conversion price could result in a payment of a deemed dividend to the holder of a note.

You should carefully review the conversion rate adjustment provisions and consult your own tax advisors with respect to the tax consequences of any such adjustment (or failure to make an adjustment).

Dividends on Common Stock

If, after you convert a note into common stock, we make a distribution of cash or other property with respect to that stock, the distribution will be treated as a dividend to the extent that it is paid from our current or accumulated earnings or profits, as determined for U.S. federal income tax purposes. If you are a noncorporate U.S. holder, including an individual, and provided you hold the common stock for more than 60 days during the 120-day period beginning 60 days before the ex-dividend date, a dividend will be taxable to you at a maximum rate of 15% through December 31, 2008. As of January 1, 2009, dividends will once again be taxable at ordinary income rates. If the distribution exceeds our current or accumulated earnings and profits, the excess will be treated first as a tax-free return

of capital to the extent of your basis in the common stock. Any remaining excess will be treated as capital gain. If you are a corporation, you may be able to claim a deduction for a portion of any distribution received that is considered a dividend.

Sale or Other Disposition of Common Stock

Table of Contents

You will generally recognize capital gain or loss on a sale or other disposition of common stock. Your gain or loss will equal the difference between the proceeds you receive and your adjusted tax basis in the stock. The proceeds received will include the amount of any cash and the fair market value of any other property received for the stock. If you are a noncorporate U.S. holder, including an individual, and have held the stock for more than one year, such capital gain will be subject to tax at a maximum rate of 15% through December 31, 2008. As of January 1, 2009, the maximum capital gains rate will revert to 20%. Your ability to deduct capital losses may be limited.

Non-U.S. Holders

The following is a summary of certain material U.S. federal tax consequences that will apply to you if you are a non-U.S. holder. The term *non-U.S. holder* means a holder of a note or common stock that is not a U.S. holder. Special rules may apply to certain non-U.S. holders such as controlled foreign corporations, passive foreign investment companies, foreign personal holding companies, persons eligible for benefits under income tax conventions to which the United States is a party and U.S. expatriates. You should consult your own tax advisors to determine the U.S. federal, state, local and other tax consequences that may be relevant to you.

Payment of Interest

The 30% U.S. federal withholding tax will not apply to any payment to you of interest (including 01D) on a note provided that:

you do not actually or constructively own 10% or more of the total combined voting power of all classes of our stock that are entitled to vote within the meaning of section 871(h)(3) of the Code;

you are not a controlled foreign corporation that is related to us within the meaning of section 864(d)(4) of the Code;

you are not a bank whose receipt of interest on a note is described in section 881(c)(3)(A) of the Code; and

you provide your name and address, and certify, under penalties of perjury, that you are not a U.S. person (which certification may be made on an IRS Form W-8BEN (or successor form)) or (b) you hold your notes through certain foreign intermediaries, and you and the foreign intermediary satisfy the certification requirements of applicable U.S. Treasury regulations. Special certification rules apply to non-U.S. holders that are pass-through entities rather than corporations or individuals.

If you cannot satisfy the requirements described above, payments of interest (and OID) will be subject to the 30% U.S. federal withholding tax, unless you provide us with a properly executed (1) IRS Form W-8BEN (or successor form) claiming an exemption from or reduction in withholding under the benefit of an applicable tax treaty or (2) IRS Form W-8ECI (or successor form) stating that interest paid on the note is not subject to withholding tax because it is effectively connected with your conduct of a trade or business in the United States. If you are engaged in a trade or business in the United States and interest on a note is effectively connected with the conduct of that trade or business or, if a tax treaty applies, is attributable to your U.S. permanent establishment, you will be subject to U.S. federal income tax on that interest on a net income basis (although you will be exempt from the 30% withholding tax, provided you satisfy the certification requirements described above) in the same manner as if you were a U.S. person as defined under the Code. In addition, if you are a foreign corporation, you may be subject to a branch profits tax equal to 30% (or lower applicable treaty rate) of your earnings and profits for the taxable year, subject to adjustments, that are effectively connected with your conduct of a trade or business in the United States. If you are eligible for a reduced rate of U.S. withholding tax pursuant to an income tax treaty, you may obtain a refund of any excess amounts withheld by filing an appropriate claim for refund with the IRS.

Constructive Dividends

Under certain circumstances, a non-U.S. holder may be deemed to have received a constructive distribution

Table of Contents

as a result of an adjustment (or a failure to make an adjustment) in the conversion price of the notes (see U.S. Holders Constructive Dividends above). Any such constructive distribution will be treated in the same manner as an actual distribution received by you, as discussed above under Dividends on Common Stock, below. We intend to deduct U.S. federal withholding tax with respect to any such constructive dividend from cash interest or other payments on your notes. You should consult your own tax advisors as to whether you can obtain a refund for all or a portion of any tax withheld with respect to constructive dividends.

Dividends on Common Stock

Any dividends paid to you with respect to our common stock will be subject to withholding tax at a 30% rate or such lower rate as may be specified by an applicable income tax treaty. However, dividends that are effectively connected with the conduct of a trade or business within the United States or, if a tax treaty applies, attributable to a U.S. permanent establishment, are not subject to the withholding tax, but instead are subject to U.S. federal income tax on a net income basis at applicable graduated individual or corporate rates. Certain certification and disclosure requirements must be complied with in order for effectively connected income to be exempt from withholding. Any such effectively connected dividends received by a foreign corporation may, under certain circumstances, be subject to an additional branch profits tax at a 30% rate (or lower applicable treaty rate). If you are a non-U.S. holder of common stock who wishes to claim the benefit of an applicable treaty rate, you are required to satisfy applicable certification and other requirements. If you are eligible for a reduced rate of U.S. withholding tax pursuant to an income tax treaty, you may obtain a refund of any excess amounts withheld by filing an appropriate claim for refund with the IRS.

Sale, Exchange, Repurchase or Redemption of Notes or Common Stock

Any gain realized upon the sale, exchange, repurchase, redemption or other disposition of a note or share of common stock generally will not be subject to U.S. federal income tax unless:

that gain is effectively connected with the conduct of a trade or business in the United States by you, or if a tax treaty applies, attributable to a U.S. permanent establishment;

you are an individual who is present in the United States for 183 days or more in the taxable year of that disposition, and certain other conditions are met; or

we are or have been a U.S. real property holding corporation for U.S. federal income tax purposes.

If you are a non-U.S. holder whose gain is described in the first or third bullet point above, you will be subject to U.S. federal income tax on the net gain derived from the sale at the applicable graduated rates. If you are a corporate non-U.S. holder whose gain is described in the first bullet point above you may also be subject to a branch profits tax at a 30% rate (or lower applicable treaty rate). If you are an individual non-U.S. holder described in the second bullet point above, you will be subject to a flat 30% U.S. federal income tax on the gain derived from the sale, which may be offset by U.S.-source capital losses, even though you are not considered a resident of the United States.

We believe that we are not, and we do not anticipate that we will become, a U.S. real property holding corporation for U.S. federal income tax purposes. However, there can be no assurance that we will not become a U.S. real property holding corporation in the future.

U.S. Federal Estate Tax

If you are a non-U.S. holder and are also not a resident of the United States (as specially defined for U.S. federal estate tax purposes) at the time of your death, the U.S. federal estate tax will not apply to notes owned by you at the

time of your death, provided that (1) you do not own 10% or more of the total combined voting power of all classes of our voting stock (within the meaning of the Code and the U.S. Treasury regulations) and (2) interest on the notes would not have been, if received at the time of your death, effectively connected with your conduct of a trade or business in the United States. However, common stock held by you at the time of your death will be

Table of Contents

included in your gross estate for U.S. federal estate tax purposes unless an applicable estate tax treaty provides otherwise. If you are an individual, you should consult with your tax advisors before considering an investment in the notes.

Information Reporting and Backup Withholding

If you are a U.S. holder, in general, information reporting requirements will apply to certain payments of principal and interest on the notes, dividends paid on the common stock, and the proceeds of sale of a note or share of common stock unless you are an exempt recipient (such as a corporation). Backup withholding tax at a rate of 28% will apply to such payments if you fail to provide your taxpayer identification number or certification of exempt status or fail to report in full dividend and interest income.

If you are a non-U.S. holder, in general, you will not be subject to backup withholding and information reporting with respect to payments that we make to you provided that we do not have actual knowledge or reason to know that you are a U.S. person and you have given us the statement described above under Non-U.S. Holders Payment of Interest. In addition, you will not be subject to backup withholding or information reporting with respect to the proceeds of the sale of a note or share of common stock within the United States or conducted through certain U.S.-related financial intermediaries, if the payor receives the statement described above and does not have actual knowledge or reason to know that you are a U.S. person, as defined under the Code, or you otherwise establish an exemption. However, we may be required to report annually to the IRS and to you the amount of, and the tax withheld, if any, with respect to, any interest or dividends paid to you, regardless of whether any tax was actually withheld. Copies of these information returns may also be made available under the provisions of a specific treaty or agreement to the tax authorities of the country in which the non-U.S. holder resides.

Any amounts withheld under the backup withholding rules will be allowed as a refund or a credit against your U.S. federal income tax provided the required information is furnished to the IRS in a timely manner.

Table of Contents**SELLING SECURITYHOLDERS**

We originally issued the notes to Merrill Lynch Pierce Fenner & Smith Incorporated, referred to as the initial purchaser, in transactions exempt from the registration requirements of the Securities Act of 1933. The notes were immediately resold by the initial purchaser to persons reasonably believed by the initial purchasers to be qualified institutional buyers within the meaning of Rule 144A under the Securities Act of 1933 in transactions exempt from registration under the Securities Act of 1933. Selling securityholders, including their transferees, pledgees or donees or their successors, may from time to time offer and sell the notes and the common stock into which the notes are convertible. Our registration of the notes and the shares of common stock issuable upon conversion of the notes does not necessarily mean that the selling securityholders will sell all or any of the notes or the common stock. Except as set forth below, none of the selling securityholders has, or within the past three years has had, any position, office or other material relationship with us or any of our predecessors or affiliates.

The following table sets forth certain information as of June 3, 2005, except where otherwise noted, concerning the principal amount of notes beneficially owned by each selling securityholder and the number of shares of underlying common stock that may be offered from time to time by each selling securityholder with this prospectus. The information is based on information provided by or on behalf of the selling securityholders. We have assumed for purposes of the table below that the selling securityholders will sell all of their notes and common stock issuable upon conversion of the notes pursuant to this prospectus, and that any other shares of our common stock beneficially owned by the selling securityholders will continue to be beneficially owned.

Information about the selling securityholders may change over time. In particular, the selling securityholders identified below may have sold, transferred or otherwise disposed of all or a portion of their notes since the date on which they provided to us information regarding their notes. Any changed or new information given to us by the selling securityholders will be set forth in supplements to this prospectus or amendments to the registration statement of which this prospectus is a part, if and when necessary.

Name of Selling Securityholder	Principal Amount of Notes Beneficially Owned and Offered (USD)	Percentage of Notes Outstanding (%)	Number of Shares of Common Stock Beneficially Owned(1)(2)	Number of Shares of Common Stock Offered (1)	Number of Shares of Common Stock Beneficially Owned after the Offering(2)(8)	Natural Person(s) with Voting or Investment Power
AG Domestic Convertibles, LP (+)	7,500,000	3.03	220,989	220,989	0	John M. Angelo, Michael L. Gordon
AG Offshore Convertibles, Ltd. (+)	17,500,000	7.07	515,641	515,641	0	John M. Angelo, Michael L. Gordon
(4)	5,000,000	2.02	147,326	147,326	0	(9)

Alexandra Global
Master Fund Ltd.

Barclays Global
Investors
Diversified

Alpha Plus Funds	1,460,000	*	43,019	43,019	0	Michael A. Boyd
------------------	-----------	---	--------	--------	---	-----------------

Barclays Global
Investors Ltd.

500,000	*	14,733	14,733	0	Alex Lach
---------	---	--------	--------	---	-----------

Barnet Partners Ltd.

1,000,000	*	29,465	29,465	0	Alex Lach
-----------	---	--------	--------	---	-----------

BP Amoco PLC
Master Trust

2,445,000	*	72,042	72,042	0	(26)
-----------	---	--------	--------	---	------

Table of Contents

Name of Selling Securityholder	Principal Amount of Notes Beneficially Owned and Offered (USD)	Percentage of Notes Outstanding (%)	Number of Shares of Common Stock Beneficially Owned(1)(2)	Number of Shares of Common Stock Offered (1)	Number of Shares of Common Stock Beneficially Owned after the Offering(2)(8)	Natural Person(s) with Voting or Investment Power Christian Menestrier
BNP Paribas Equity Strategies, SNC (+)	7,429,000	3.00	227,068	218,897	8,171	
Canyon Capital Arbitrage Master Fund, Ltd. (+)	4,500,000	1.82	132,593	132,593	0	(10)
Canyon Value Realization Fund, L.P. (+)	2,250,000	*	66,297	66,297	0	(11)
Canyon Value Realization Fund (Cayman), Ltd. (+)	6,150,000	2.49	181,211	181,211	0	(12)
Canyon Value Realization Mac 18, Ltd. (RMF) (+)	900,000	*	26,519	26,519	0	(13)
City of Southfield Fire and Police Retirement System	14,000	*	413	413	0	(26)
Consulting Group Capital Markets Fund Multi Strategy Market Neutral Investments	1,400,000	*	41,251	41,251	0	(26)
CooperNeff Convertible Strategies (Cayman) Master Fund, LP	7,313,000	2.96	215,479	215,479	0	Christian Menestrier
CSS, LLC (#)	2,000,000	*	58,930	58,930	0	Michael J. Carusillo, Clayton A. Struve,

						Nicholas D. Schoewe
DBAG London (+)	10,833,000	4.83	319,197	319,197	0	Patrick Corrigan
Deutsche Bank Securities Inc. (#)	167,000	*	4,921	4,921	0	Tom Sullivan
DKR Saturn Event Driven Holding Fund Ltd.	9,500,000	3.84	279,919	279,919	0	(14)
DKR Saturn Multi-Strategy Holding Fund Ltd.	9,500,000	3.84	279,919	279,919	0	(15)

Table of Contents

Name of Selling Securityholder	Principal Amount of Notes Beneficially Owned and Offered (USD)	Percentage of Notes Outstanding (%)	Number of Shares of Common Stock Beneficially Owned(1)(2)	Number of Shares of Common Stock Offered (1)	Number of Shares of Common Stock Beneficially Owned after the Offering(2)(8)	Natural Person(s) with Voting or Investment Power
DKR SoundShore Oasis Holding Fund Ltd.	16,000,000	6.47	471,443	471,443	0	(16)
DKR SoundShore Strategic Holding Fund Ltd.	2,000,000	*	58,930	58,930	0	(17)
Estate of James Campbell	90,000	*	2,652	2,652	0	(26)
Forest Fulcrum Fund LP (#)	1,480,000	*	43,608	43,608	0	Michael A. Boyd
Forest Global Convertible Fund, Ltd. Class A-5	5,619,000	2.27	165,565	165,565	0	Michael A. Boyd
Forest Multi-Strategy Master Fund SPC, on behalf of its Multi- Strategy Segregated Portfolio	3,420,000	1.38	100,771	100,771	0	Michael A. Boyd
FrontPoint Convertible Arbitrage Fund, L.P.	5,500,000	2.22	162,059	162,059	0	(18)
Gaia Offshore Master Fund Ltd.	4,500,000	1.82	132,593	132,593	0	(3)
General Motors Welfare Benefit Trust	1,000,000	*	29,465	29,465	0	Alex Lach
GM AM Group Pension Trust	1,000,000	*	29,465	29,465	0	Alex Lach
	5,000,000	2.02	147,326	147,326	0	

Geode U.S. Convertible Arbitrage Fund, a segregated account of Geode Capital Master Fund Ltd.						Vincent Gubitosi
Grace Convertible Arbitrage Fund Ltd.						Bradford Whitmore & Michael Brailov
	8,500,000	3.44	250,454	250,454	0	
HFR CA Global Opportunity Master Trust	1,020,000	*	30,055	30,055	0	Michael A. Boyd
		54				

Table of Contents

Name of Selling	Principal Amount of Notes Beneficially	Percentage of Notes Outstanding (%)	Number of Shares of Common Stock Beneficially Owned(1)(2)	Number of Shares of Common Stock Offered (1)	Number of Shares of Common Stock Beneficially Owned after the Offering(2)(8)	Natural Person(s) with Voting or Investment Power
Securityholder HFR RVA Select Performance Master Trust	Owned and Offered (USD)					Michael A. Boyd
	560,000	*	16,501	16,501	0	
Highbridge International LLC (+)						Glenn Dubin & Henry Sweica
	8,500,000	3.44	250,454	250,454	0	
Hotel Union and Hotel Industry of Hawaii Pension Plan						(26)
	298,000	*	8,781	8,781	0	
Institutional Benchmarks Master Fund Ltd. c/o SSI Investment Mgt.						(25)
	2,403,000	*	70,804	70,804	0	
JMG Capital Partners LP						(3)
	4,000,000	1.62	117,861	117,861	0	
JMG Triton Offshore Fund, LTD.						(19)
	4,000,000	1.62	117,861	117,861	0	
JP Morgan Securities, Inc. (#)						Charlotte Chui
	10,000,000	4.04	294,652	294,652	0	
Kamunting Street Master Fund, LTD						Allan Teh
	3,000,000	1.21	88,896	88,896	0	
KBC Financial Products USA, Inc. (#)						(20)
	9,540,000	3.86	281,098	281,098	0	
Lighthouse Multi- Strategy Master Fund						Frank Compana and James Doolin
	250,000	*	7,366	7,366	0	

Edgar Filing: THORATEC CORP - Form 424B3

LLT Limited	760,000	*	22,394	22,394	0	(21)
Lyxor Convertible Arbitrage Fund Limited	1,287,000	*	37,922	37,922	0	Christian Menestrier
Lyxor/Forest Fund Limited	3,340,000	1.35	98,414	98,414	0	Michael A. Boyd
Lyxor/GAIN II Fund Ltd.	1,500,000	*	44,198	44,198	0	(3)
Lyxor/Quest Fund Ltd.	1,650,000	*	48,618	48,618	0	Frank Compana and James Doolin
Mellon HBV Master Convertible Arbitrage Fund LP (+)	1,380,000	*	40,662	40,662	0	Stuart Dobson

55

Table of Contents

Name of Selling Securityholder	Principal Amount of Notes Beneficially Owned and Offered (USD)	Percentage of Notes Outstanding (%)	Number of Shares of Common Stock Beneficially Owned(1)(2)	Number of Shares of Common Stock Offered (1)	Number of Shares of Common Stock Beneficially Owned after the Offering(2)(8)	Natural Person(s) with Voting or Investment Power
Mellon Master Leveraged Multi-Strategy Fund LP (+)	52,500	*	1,547	1,547	0	Stuart Dobson
Mellon HBV Master Multi-Strategy Fund LP (+)	831,000	*	24,486	24,486	0	Stuart Dobson
Merrill Lynch, Pierce, Fenner and Smith, Inc. (#)	10,324,000	4.18	304,729	304,729	0	(26)
MFS Mid Cap Value Fund A Series of MFS Series Trust XI (+)	3,200,000	1.29	94,289	94,289	0	(3)
MFS Sunlife Mid Cap Value Series (+)	200,000	*	5,893	5,893	0	(3)
Mint Master Fund Ltd	164,000	*	4,832	4,832	0	Stuart Dobson
Nomura Securities Int 1 (#)	2,000,000	*	59,730	58,930	800	Simon Pharr
Northwestern Mutual Life Insurance Company	4,000,000	1.62	117,861	117,861	0	(22)
Polaris Vega Fund L.P.	300,000	*	8,840	8,840	0	Gregory Levinson
Quest Global Convertible Master Fund Ltd.	600,000	*	17,679	17,679	0	Frank Compana and James

Doolin

Radcliffe SPC Ltd. for
and on behalf of the
Class A Convertible
Crossover Segregated
Portfolio

9,000,000

3.64

324,117

265,186

58,931

(23)

Retail Clerks Pension
Trust

1,000,000

*

29,465

29,465

0

Alex
Lach

Silverback Master Ltd.

5,000,000

2.02

147,326

147,326

0

Elliot
Bassen

56

Table of Contents

Name of Selling Securityholder	Principal Amount of Notes Beneficially Owned and Offered (USD)	Percentage of Notes Outstanding (%)	Number of Shares of Common Stock Beneficially Owned(1)(2)	Number of Shares of Common Stock Offered (1)	Number of Shares of Common Stock Beneficially Owned after the Offering(2)(8)	Natural Person(s) with Voting or Investment Power
Singlehedge US Convertible Arbitrage Fund	1,950,000	*	57,457	57,457	0	Christian Menestrier
Sphinx Convertible Arbitrage Fund SPC c/o SSI Investment Mgt.	2,129,000	*	62,731	62,731	0	(26)
Sphinx Convertible Arbitrage SPC	1,160,000	*	34,180	34,180	0	Michael A. Boyd
SSI Blended Market Neutral L.P.	875,000	*	25,782	25,782	0	(26)
SSI Hedged Convertible Market Neutral L.P.	1,283,000	*	37,804	37,804	0	(26)
St. Albans Partners Ltd.	3,500,000	1.41	103,128	103,128	0	Alex Lach
Sturgeon Limited	158,000	*	4,656	4,656	0	(25)

Table of Contents

Name of Selling Securityholder	Principal Amount of Notes Beneficially Owned and Offered (USD)	Percentage of Notes Outstanding (%)	Number of Shares of Common Stock Beneficially Owned(1)(2)	Number of Shares of Common Stock Offered (1)	Number of Shares of Common Stock Beneficially Owned after the Offering(2)(8)	Natural Person(s) with Voting or Investment Power
Xavex Convertible Arbitrage Fund	340,000	*	10,018	10,018	0	Michael A. Boyd
Yield Strategies Fund I, LP	2,000,000	*	58,930	58,930	0	Alex Lach
Yield Strategies Fund II, LP	2,000,000	*	58,930	58,930	0	Alex Lach
Zurich Institutional Benchmarks Master Fund Ltd.	1,720,000	*	50,680	50,680	0	Michael A. Boyd
Total (6)(7):	247,427,000	100	7,309,077	7,290,486	18,591	n/a

* Less than one percent (1%).

The selling securityholder is a registered broker-dealer.

+ The selling securityholder is an affiliate of a registered broker-dealer.

(1) Assumes conversion of all of the holder's notes at a conversion rate of 29.4652 shares of common stock per \$1,000 principal amount at maturity of the notes. This conversion rate is subject to adjustment as described under Description of Notes Conversion Rights. As a result, the number of shares of common stock issuable upon conversion of the notes may increase or decrease in the future. Excludes shares of common stock that may be issued by us upon the repurchase of the notes as described under Description of Notes Repurchase of the Notes by Us at the Option of Holders Upon a Fundamental Change and fractional shares. Holders will receive a cash adjustment for any fractional share amount resulting from conversion of the notes, as described under Description of Notes Conversion Rights.

(2) Except as set forth below in footnotes (4) (5), and (7), the number of shares of common stock beneficially owned by each holder named above is less than 1% of our outstanding common stock, calculated based on 48,975,575 shares of common stock outstanding as of May 26, 2005. In calculating this amount for each holder, we treated as outstanding the number of shares of common stock issuable upon conversion of all of that holder's notes, but we did not assume conversion of any other holder's notes.

(3) The selling securityholder has informed us that there are no natural persons with voting or investment power over the notes and common stock issuable upon conversion of the notes.

- (4) The number of shares of common stock beneficially owned by this holder is 1.05% of our outstanding common stock, calculated as described in (2).
- (5) The number of shares of common stock beneficially owned by this holder is 1.09% of our outstanding common stock, calculated as described in (2).
- (6) Information concerning named selling securityholders or future transferees, pledgees or donees of or from any such securityholder will be set forth in supplements to this prospectus, absent circumstances indicating the change is

Table of Contents

material. In addition, post-effective amendments to the registration statement, of which this prospectus is a part, will be filed to disclose any material changes to the plan of distribution from the description in the final prospectus, or additions or changes with respect to unnamed selling securityholders or future transferees, pledgees or donees from such unnamed holders.

(7) The sum of the listed principal amounts of notes beneficially owned by the selling securityholders named in the table above exceeds \$247,427,000 because certain selling securityholders may have transferred notes or otherwise reduced their position prior to selling pursuant to this prospectus, and as a result we received beneficial ownership information from additional selling securityholders. However, the maximum principal amount of notes that may be sold under this prospectus will not exceed \$247,427,000.

(8) For the purposes of computing the number and percentage of notes and shares to be held by the selling securityholders after the conclusion of the offering, we have assumed for purposes of the table above that the selling securityholders named above will sell all of the notes and all of the common stock issuable upon conversion of the notes offered by this prospectus, and that any other shares of our common stock beneficially owned by these selling securityholders will continue to be beneficially owned. We also assume that unnamed holders of notes, or any future transferees, pledgees, donees or successors of or from any such holder, do not beneficially own any common stock other than that issuable upon conversion of the notes.

(9) Alexandra Investment Management LLC serves as investment adviser to the Selling Securityholder. By reason of such relationship, Alexandra may be deemed to share dispositive power or investment control over the shares of common stock stated as beneficially owned by the Selling Securityholder. Alexandra disclaims beneficial ownership of such shares of common stock. Messrs. Mikhail A. Filimonov and Dmitri Sogoloff are managing members of Alexandra. By reason of such relationships, Filimonov and Sogoloff may be deemed to share dispositive power or investment control over the shares of common stock stated as beneficially owned by the Selling Securityholder. Filimonov and Sololoff disclaim beneficial ownership of such shares of common stock.

(10) Controlling entity with voting and investment power: Canyon Capital Advisors LLC. Canyon Capital Advisors LLC is the investment advisor for Canyon Capital Arbitrage Master Fund, Ltd. and has the power to direct investments by Canyon Capital Arbitrage Master Fund, Ltd. The managing partners of Canyon Capital Advisors LLC are Joshua S. Friedman, Mitchell R. Julis, R. Christian B. Evensen and K. Robert Turner. Canyon Capital Arbitrage Master Fund Ltd., is a Cayman Islands Exempted company.

(11) Controlling entities with voting and investment power: Canpartners Investments III, L.P. and Canyon Capital Advisors LLC. The general partners for Canyon Value Realization Fund, L.P. are Canpartners Investments III, L.P. Canyon Capital Advisors LLC is the General Partner of Canpartners Investments III. The managing partners of Canyon Capital Advisors LLC are Joshua S. Friedman, Mitchell R. Julis, R. Christian B. Evensen and K. Robert Turner.

(12) Controlling entity with voting and investment power: Canyon Capital Advisors LLC is the investment advisor. The managing partners of Canyon Capital Advisors LLC are Joshua S. Friedman, Mitchell R. Julis, R. Christian B. Evensen and K. Robert Turner. In addition, Joshua S. Friedman, Mitchell R. Julis and R. Christian B. Evensen own all the ordinary shares of Canyon Value Realization Fund (Cayman), Ltd., carrying full voting rights on all matters.

(13) Controlling entity with Voting and Investment Power: RMF MAC Ltd. Managed Accounts Limited is the parent company of Canyon Value Realization Mac 18, Ltd. Canyon Capital Advisors is the Investment Advisor for Canyon Value Realization MAC Ltd. and has the power to direct investments. The managing partners of Canyon Capital Advisors LLC are Joshua S. Friedman, Mitchell R. Julis, R. Christian B. Evensen and K. Robert Turner. Canyon Value Realization MAC Ltd. is a Limited Liability Cayman Islands Company.

(14) DKR Saturn Management LP is a registered investment adviser with the Securities and Exchange Commission and as such, is the investment Manager to DKR Saturn Event Driven Holding Fund Ltd. DKR Saturn has retained certain individuals to act as the portfolio manager to the Fund managed by DKR Saturn. As such, DKR Saturn and certain portfolio managers have shares dispositive and voting power over the securities. For shares included in this

Table of Contents

questionnaire, DKR Saturn Management Company LP has been retained to act as the portfolio manager to the fund. Ron Phillips has trading authority over the Fund.

(15) DKR Saturn Management LP is a registered investment adviser with the Securities and Exchange Commission and as such, is the investment Manager to DKR Saturn Multi-Strategy Fund Ltd. DKR Saturn has retained certain individuals to act as the portfolio manager to the Fund managed by DKR Saturn. As such, DKR Saturn and certain portfolio managers have shares dispositive and voting power over the securities. For shares included in this questionnaire, DKR Saturn Management Company LP has been retained to act as the portfolio manager to the fund. Mike Cotton has trading authority over the Fund.

(16) DKR Capital Partners LP is a registered investment adviser with the Securities and Exchange Commission and as such, serves as the managing general partner to DKR Oasis Management Company LP, the investment manager to DKR Soundshore Oasis Holding Fund. Seth Fisher has trading authority over the Fund.

(17) DKR Capital Partners LP is a registered investment adviser with the Securities and Exchange Commission and as such, is the investment manager to DKR SoundShore Strategic Holding Fund Ltd. DKR has retained certain individuals to act as the portfolio manager to the Fund managed by DKR. As such, DKR LP and certain portfolio managers have shares dispositive and voting power over the securities. For shares included in this questionnaire, Seth Fisher has trading authority over the Fund.

(18) Frontpoint Convertible Arbitrage Fund GP LLC is the general partner of FrontPoint Convertible Arbitrage Fund L.P. FrontPoint Partners LLC is the managing member of FrontPoint Convertible Arbitrage Fund GP, LLC and as such has voting and dispositive power over the securities held by the fund. Phillip Duff, W. Gillespie Caffray and Paul Ghaffari are members of the board of managers of FrontPoint Partners LLC and are the sole members of its management committee. Messrs. Duff, Caffray and Ghaffari and FrontPoint Partners LLC and FrontPoint Convertible Arbitrage Fund GP, LLC each disclaim beneficial ownership of the securities held by the fund except for their pecuniary interest herein.

(19) JMG Triton Offshore Fund, Ltd. Is an international business company under the laws of the British Virgin Islands. The Fund's investment manager is Pacific Assets Management LLC. The Manager is an investment adviser registered with the SEC and has voting and dispositive power over the Fund's investments, including the Registerable Securities. The Equity interests of the Manager are owned by Pacific Capital Management, Inc. and Asset Alliance Holding Corp. The equity interests of Pacific are owned by Messrs. Roger Richter, Jonathan M. Glaser and Daniel A. David and Messrs. Glaser and Richter have sole investment discretion over the Fund's portfolio holdings.

(20) KBC Financial Products USA, Inc. exercises voting and investment control over any shares of common stock issuable upon conversion of the notes owned by this selling holder. Mr. Luke Edwards, Managing Director, exercises voting and investment control on behalf of KBC Financial Products USA, Inc.

(21) Forest Investment Management LP has sole voting control and shared investment control. Forest is wholly owned by Forest Partners II, the sole General Partner of which is Michael A. Boyd Inc., which is solely owned by Michael A. Boyd.

Table of Contents

(22) Northwestern Investment Management Company LLC (NIMC), a wholly-owned company of the Selling Securityholder is one of the investment advisors of the Selling Securityholder, and is the investment advisor for the Selling Securityholder with respect to the Restricted Securities. NIMC therefore may be deemed to be an indirect beneficial owner with shared voting/investment power with respect to such securities. Jerome R. Baier is a portfolio manager for NIMC and manages the portfolio which holds the Restricted Securities.

(23) Pursuant to an investment management agreement, RG Capital Management, L.P. (RG Capital) serves as the investment manager of Radcliffe SPC, Ltd. s Class A Convertible Crossover Segregated Portfolio. RGC Management Company, LLC (Management) is the general partner of RG Capital. Steve Katznelson and Gerald Stahlecker serve as the managing members of Management. Each of RG Capital, Management and Messr. Katznelson and Stahlecker disclaims beneficial ownership of the securities owned by Radcliffe SPC, Ltd. for and on behalf of the Class A Convertible Crossover Segregated Portfolio.

(24) CooperNeff Advisors, Inc. has sole investment control and shared voting control. Christian Menestrier is the CEO of CooperNeff Advisors, Inc.

(25) SSI Investment Management has voting and investment control over the securities. Mr. John Gottfurcht, Mr. George Douglas and Mrs. Amy Jo Gottfurcht are the principal shareholders of SSI Investment Management.

(26) The selling securityholder has informed us that it is required to file, or is a wholly-owned subsidiary of a company that is required to file, periodic and other reports with the Securities and Exchange Commission pursuant to Section 13(a) or 15(d) of the Exchange Act.

(27) GLG Market Neutral Fund is a publicly owned company listed on the Irish Stock Exchange. GLG Partners LP, an English limited partnership, acts as the investment manager of GLG Market Neutral Fund and has voting and dispositive power over the securities held by GLG Market Neutral Fund. The general partner of GLG Partners LP is GLG Partners Limited, an English limited company. The shareholders of GLG Partners Limited are Noam Gottesman, Pierre Lagrange, Jonathan Green, Philippe Jabre and Lehman (Cayman) Limited, a subsidiary of Lehman Brothers, Inc., a publicly-held entity. GLG Partners LP, GLG Partners Limited, Noam Gottesman, Pierre Lagrange, Jonathan Green, Philippe Jabre and Lehman (Cayman) Limited disclaim beneficial ownership of the securities held by GLG Market Neutral Fund, except for their pecuniary interest therein.

This prospectus may be used only by the selling securityholders identified above to sell the securities set forth opposite each such selling securityholder s name in the foregoing table. This prospectus may not be used by any selling securityholder not named in this prospectus, including transferees, pledgees or donees of the selling securityholders named above, prior to the effectiveness of the registration statement of which this prospectus is a part. Prior to any use of this prospectus in connection with an offering of the notes and/or the common stock issuable upon conversion of the notes by any unnamed securityholder or future transferees, pledgees or donees from such unnamed securityholders, the registration statement, of which this prospectus is a part, will be amended, as required, to set forth the name and other information about such selling securityholder. Additional information for the named securityholders and the information for transferees, pledgees or donees of the named securityholders will be provided by supplements to this prospectus, absent circumstances indicating the change is material. The supplement or amendment will also disclose whether any securityholder selling in connection with such supplement or amendment has held any position or office with, been employed by or otherwise had a material relationship with, us or any of our affiliates during the three years prior to the date of the supplement or amendment if such information has not been previously disclosed.

Table of Contents

PLAN OF DISTRIBUTION

The selling securityholders and their successors, which include their transferees, pledgees or donees and their successors, may, from time to time, sell the notes and the underlying common stock directly to purchasers or through underwriters, broker/dealers or agents who may receive compensation in the form of underwriting discounts, concessions or commissions from the selling securityholders and/or the purchasers of the securities. These discounts, concessions or commissions may be in excess of those customary in the types of transactions involved.

The selling securityholders may sell the notes and the underlying common stock, from time to time, in one or more transactions at:

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

These sales may be effected in transactions (which may involve block transactions) in the following manner:

- on any national securities exchange or quotation service on which the notes or the underlying common stock may be listed or quoted at the time of sale;
- in the over-the-counter market;
- in transactions otherwise than on such exchanges or services or in the over-the-counter market; or
- through the writing of options, whether such options are listed on option exchanges or otherwise through the settlement of short sales.

These sales may include crosses. Crosses are transactions in which the same broker acts as an agent on both sides of the transaction.

The selling securityholders may also enter into hedging transactions with broker/dealers or other financial institutions in connection with the sales of the notes or the underlying common stock. These broker/dealers or other financial institutions may, in turn, engage in short sales of these securities in the course of hedging their positions. The selling securityholders may sell short these securities to close out short positions, or loan or pledge these securities to broker/dealers that, in turn, may sell such securities.

A short sale of the notes or the underlying common stock by a broker-dealer, financial institution or selling securityholder would involve the sale of such notes or underlying common stock that are not owned, and therefore must be borrowed, in order to make delivery of the security in connection with such sale. In connection with a short sale of the notes or the underlying common stock, a broker-dealer, financial institution or selling securityholder may purchase the notes or our common stock in the open market to cover positions created by short sales. In determining the source of the notes or shares of common stock to close out these short positions, the broker-dealer, financial institution or selling securityholders may consider, among other things, the price of notes or shares of common stock available for purchase in the open market.

The aggregate proceeds to the selling securityholders from the sale of the notes or underlying common stock will be the purchase price of the notes or common stock less any discounts or commissions. A selling securityholder

Table of Contents

reserves the right to accept, and together with its agents, to reject (except when we decide to redeem the notes in accordance with the terms of the indenture) any proposed purchase of notes or common stock to be made directly or through agents. We will not receive any of the proceeds from this offering.

To comply with certain states' securities laws, if applicable, the selling securityholders will offer or sell the notes and the common stock into which the notes are convertible in such jurisdictions only through registered or licensed brokers/dealers. In addition, in some states the selling securityholders may not sell the notes and the common stock into which the notes are convertible unless such securities have been registered or qualified for sale in the applicable state or an exemption from registration or qualification is available and the conditions of which have been satisfied.

Our outstanding common stock is quoted on the NASDAQ National Market. Since their initial issuance, the notes have been eligible for trading on the PORTAL Market of the National Association of Securities Dealers, Inc. However, notes sold by means of this prospectus will no longer be eligible for trading of the PORTAL Market. We do not intend to list the notes for trading on any other automated quotation system or any securities exchange.

The selling securityholders and any underwriters, broker/dealers or agents that participate in the distribution of the notes and underlying common stock may, in connection with these sales, be deemed to be underwriters within the meaning of the Securities Act of 1933. Any selling securityholder that is a broker-dealer or an affiliate of a broker-dealer will be deemed to be an underwriter within the meaning of the Securities Act of 1933, unless such selling securityholder purchased its notes in the ordinary course of business, and at the time of its purchase of the notes to be resold, did not have any agreements or understandings, directly or indirectly, with any person to distribute the notes. As a result, any discounts, commissions, concessions or profit they earn on any resale of the notes or the shares of the underlying common stock may be underwriting discounts and commissions under the Securities Act of 1933. Selling securityholders who are deemed to be underwriters within the meaning of the Securities Act of 1933 will be subject to the prospectus delivery requirements of the Securities Act of 1933 and to certain statutory liabilities, including but not limited to those relating to Sections 11, 12 and 17 of the Securities Act of 1933 and Rule 10b-5 under the Securities Exchange Act of 1934. The selling securityholders have agreed to comply with the prospectus delivery requirements of the Securities Act of 1933, if any. We have been informed that the selling securityholders identified by the symbol # in the table in the section of this prospectus entitled Selling Securityholders are registered broker-dealers, and as a result they are underwriters in connection with the sale of the notes and the underlying common stock.

Each of the selling securityholders identified by the symbol + in the table in the section of this prospectus entitled Selling Securityholders has informed us that it is an affiliate of one or more registered-broker dealers. Each of these selling securityholders has also informed us that (1) such selling securityholder purchased its notes in the ordinary course of business and (2) at the time that the notes were purchased, such selling securityholder had no agreements or understandings, directly or indirectly, with any person to distribute the notes.

The selling securityholders and any other person participating in the sale of the notes or the underlying common stock will be subject to the Securities Exchange Act of 1934. The Securities Exchange Act of 1934 rules include, without limitation, Regulation M, which may limit the timing of purchases and sales of any of the notes and the underlying common stock by the selling securityholders and any other such person. In addition, Regulation M of the Securities Exchange Act of 1934 may restrict the ability of any person engaged in the distribution of the notes and the underlying common stock to engage in market-making activities with respect to the particular notes and the underlying common stock being distributed for a period of up to five business days before the commencement of such distribution. This may affect the marketability of the notes and the underlying common stock and the ability of any person or entity to engage in market-making activities with respect to the notes and the underlying common stock.

We cannot assure you that any selling securityholder will sell any or all of the notes or the underlying common stock with this prospectus. Further, we cannot assure you that any such selling securityholder will not transfer, devise or gift the notes and the underlying common stock by other means not described in this prospectus. As a result, there may be, at any time, securities outstanding that are subject to restrictions on transferability and resale. In addition, any securities covered by this prospectus which qualify for sale pursuant to Rule 144 or Rule 144A under the Securities Act of 1933 may be sold pursuant to Rule 144 or Rule 144A rather than pursuant to this prospectus. Each

Table of Contents

selling securityholder has represented that it will not sell any notes or common stock pursuant to this prospectus except as described in this prospectus.

At the time a particular offering of the notes or underlying common stock is made, if required, a prospectus supplement, or, if appropriate, a post-effective amendment to the registration statement of which this prospectus is a part, will be distributed setting forth the names of the selling securityholders, the aggregate amount and type of securities being offered, and, to the extent required, the terms of the offering, including the name or names of any underwriters, broker/dealers or agents, any discounts, commissions and other terms constituting compensation from the selling securityholders and any discounts, commission or concessions allowed or reallocated or paid to the broker/dealers.

To our knowledge, there are currently no plans, arrangements or understandings between any selling securityholder and any underwriter, broker-dealer or agent regarding the sale of notes and the underlying common stock by the selling securityholders.

Pursuant to the registration rights agreement relating to the notes, all expenses of the registration of notes and underlying common stock will be paid by us, except that the selling securityholders will pay all underwriting discounts and selling commissions. The selling securityholders and we have agreed to indemnify each other and our respective directors, officers and controlling persons against, and in certain circumstances to provide contribution with respect to, specific liabilities in connection with the offer and sale of the notes and the common stock, including liabilities under the Securities Act of 1933.

The registration rights agreement requires that we use our reasonable best efforts to keep the shelf registration statement continuously effective until the earliest of such time as all of the notes and the common stock issuable upon conversion thereof (i) cease to be outstanding, (ii) have been sold or otherwise transferred pursuant to an effective registration statement, (iii) have been sold pursuant to Rule 144 under circumstances in which any legend borne by the notes or common stock relating to restrictions on transferability thereof is removed or (iv) are eligible to be sold pursuant to Rule 144(k) or any successor provision. Notwithstanding the foregoing obligations, we may, under certain circumstances, postpone or suspend the filing or the effectiveness of the shelf registration statement, or any amendments or supplement thereto, or the sale of the notes or underlying common stock hereunder. See Description of Notes Registration Rights.

LEGAL MATTERS

The validity of the securities offered by this prospectus will be passed upon for us by Gibson, Dunn & Crutcher LLP, San Francisco, California.

EXPERTS

The financial statements and the related financial statement schedule and management's report on the effectiveness of internal control over financial reporting incorporated in this prospectus by reference from Thoratec's Annual Report on Form 10-K for the year ended January 1, 2005 have been audited by Deloitte & Touche LLP, an Independent Registered Public Accounting Firm, as stated in their reports which are incorporated herein by reference, and have been so incorporated reliance upon the reports of such firm given upon their authority as experts in accounting and auditing.

WHERE YOU CAN FIND MORE INFORMATION

We are subject to the information requirements of the Securities Exchange Act of 1934 and file reports, proxy statements and other information with the SEC. We are required to file electronic versions of these documents with the SEC. Our reports, proxy statements and other information can be inspected and copied at prescribed rates at the public reference facilities maintained by the SEC at Judiciary Plaza, 450 Fifth Street, N.W., Washington D.C. 20549. Please call the SEC at 1-800-SEC-0330 for further information on the public reference rooms. The SEC also maintains a website that contains reports, proxy and information statements and other information, including electronic versions of our filings. The website address is <http://www.sec.gov>.

Table of Contents

INCORPORATION OF CERTAIN DOCUMENTS BY REFERENCE

This prospectus incorporates by reference some of the reports, proxy and information statements and other information that we have filed with the SEC under the Securities Exchange Act of 1934. This means that we are disclosing important business and financial information to you by referring you to those documents. The information that we file later with the SEC will automatically update and supersede this information. We incorporate by reference the documents listed below and any future filings made with the SEC under sections 13(a), 13(c), 14 or 15(d) of the Securities Exchange Act of 1934 until all of the securities offered by this prospectus are sold; provided, however, that we are not incorporating any information furnished under either Item 9 or Item 12 of any current report on Form 8-K. These documents may include annual reports on Form 10-K, quarterly reports on Form 10-Q and current reports on Form 8-K, as well as the portions of our proxy statements incorporated by reference into our Annual Reports on Form 10-K.

Annual Report on Form 10-K and Annual Report on Form 10-K/A for the year ended January 1, 2005 (including the portions of our Proxy Statement for our 2005 Annual Meeting of Shareholders incorporated by reference therein);

Quarterly Report on Form 10-Q for the period ended April 2, 2005;

The description of Thoratec's Common Stock contained in the Registration Statement on Form 8-A filed with the SEC on May 18, 1981, including any amendments or reports filed for the purpose of updating such information; and

The description of Thoratec's Preferred Stock Purchase Rights contained in the Registration Statement on Form 8-A filed with the SEC on May 3, 2002, including any amendments or reports filed for the purpose of updating such information.

Any statement made in a document incorporated by reference into this prospectus is deemed to be modified or superseded for purposes of this prospectus to the extent that a statement in this prospectus or in any other subsequently filed document, which is also incorporated by reference, modifies or supersedes the statement. Any statement so modified or superseded will not be deemed, except as so modified or superseded, to constitute a part of this prospectus.

In addition, for so long as any of the notes remain outstanding and during any period in which we are not subject to Section 13 or Section 15(d) of the Securities Exchange Act of 1934, we will make available to any prospective purchaser or beneficial owner of the securities in connection with the sale thereof the information required by Rule 144A(d)(4) under the Securities Act of 1933. The information relating to us contained in this prospectus should be read together with the information in the documents incorporated by reference into this prospectus. In addition, certain information, including financial information, contained in this prospectus or incorporated by reference in this prospectus should be read in conjunction with documents we have filed with the SEC.

You may request, and we will provide at no cost, a copy of our filings with the SEC incorporated by reference into this prospectus. Requests for documents should be directed to Investor Relations Thoratec Corporation, 6035 Stoneridge Drive, Pleasanton, California 94588, (925) 897-8600. Exhibits to these filings will not be sent unless those exhibits have been specifically incorporated by reference in this document.