Cardiovascular Systems Inc Form S-3ASR December 06, 2018

As filed with the Securities and Exchange Commission on December 6, 2018

Registration No. 333-

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

Form S-3

REGISTRATION STATEMENT UNDER THE SECURITIES ACT OF 1933

CARDIOVASCULAR SYSTEMS, INC. (Exact name of registrant as specified in its charter)

DelawareNo. 41-1698056(State or other jurisdiction(I.R.S. Employerof incorporation or organization)Identification Number)

1225 Old Highway 8 Northwest
St. Paul, Minnesota 55112-6416
(651) 259-1600
(Address, including zip code, and telephone number, including area code, of registrant's principal executive offices)
Jeffrey S. Points
Chief Financial Officer
Cardiovascular Systems, Inc.
1225 Old Highway 8 Northwest
St. Paul, Minnesota 55112-6416
(651) 259-1600
(Name, address, including zip code, and telephone number, including area code, of agent for service)

Please send copies of all communications to:

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Alexander Rosenstein	Amanda K. Lorentz, Esq.
General Counsel and Corporate Secretary	Fredrikson & Byron, P.A.
Cardiovascular Systems, Inc.	200 South Sixth Street,
1225 Old Highway 8 Northwest	Suite 4000
St. Paul, Minnesota 55112-6416	Minneapolis, Minnesota 55402
Fax: (651) 528-7194	Fax: (612) 492-7077

Approximate date of commencement of proposed sale to the public: From time to time after the effectiveness of the Registration Statement.

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

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

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

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

If this Form is a registration statement pursuant to General Instruction I.D. or a post-effective amendment thereto that shall become effective upon filing with the Commission pursuant to Rule 462(e) under the Securities Act, check the following box. x

If this Form is a post-effective amendment to a registration statement filed pursuant to General Instruction I.D. filed to register additional securities or additional classes of securities pursuant to Rule 413(b) under the Securities Act, check the following box."

Indicate by check mark whether the registrant is a large accelerated filer, an accelerated filer, a non-accelerated filer, a smaller reporting company, or an emerging growth company. See the definitions of "large accelerated filer," "accelerated filer," "smaller reporting company" and "emerging growth company" in Rule 12b-2 of the Exchange Act.

Large accelerated filer x	Accelerated filer "
Non-accelerated filer "	Smaller reporting company "
Emerging growth company "	

If an emerging growth company, indicate by check mark if the registrant has elected not to use the extended transition period for complying with any new or revised financial accounting standards provided pursuant to Section 7(a)(2)(B) of Securities Act.

CALCULATION OF REGISTRATION FEE

		Proposed Maximum	Proposed Maximum	
Title of Each Class of	Amount to be	Offering Price	Aggregate	Amount of
Securities to be Registered	Registered	Per Share	Offering Price	Registration Fee
Common Stock				
Preferred Stock				
Warrants				
Debt Securities				
Units				
Total	N/A	N/A	\$350,000,000 (1)	\$42,420 (2)

In no event will the aggregate offering price of all securities issued from time to time by the registrant under this registration statement (the "Securities") exceed \$350,000,000 or its equivalent in any other currency, currency units, (1) or composite currency or currency. The Securities covered has this registration statement and the securities are secured by the registration statement of the securities are secured by the secured by the secured by the secured by the secured by t

⁽¹⁾ or composite currency or currencies. The Securities covered by this registration statement may be sold separately, together, or as units with other Securities registered under this registration statement.

(2) The proposed maximum aggregate price of the Securities has been estimated solely for the purpose of calculating the registration fee pursuant to Rule 457(o) under the Securities Act.

(3)

Subject to note (1), the Securities being registered in this registration statement consist of such an indeterminate amount of common stock (with accompanying purchase rights, if any), as may be sold from time to time at indeterminate prices by the registrant.

Subject to note (1), the Securities being registered in this registration statement consist of such an indeterminate amount of preferred stock (with accompanying purchase rights, if any) as may be sold from time to time at indeterminate prices by the registrant. In addition, the Securities being registered in this registration statement also (4) consist of such as indeterminate

(4) Indeterminate preces by the registratic in addition, the securities being registered in this registration statement also consist of such an indeterminate amount of common stock (with accompanying purchase rights, if any) (i) as may be issuable or deliverable upon conversion of preferred stock, and (ii) as may be required for delivery upon conversion of preferred stock as a result of anti-dilution provisions.

Subject to note (1), the Securities being registered in this registration statement consist of such an indeterminate amount of warrants, representing rights to purchase common stock, preferred stock and debt securities registered under this registration statement, as may be sold from time to time at indeterminate prices by the registrant. In

(5) addition, the Securities being registered in this registration statement also consist of such an indeterminate amount of common stock and preferred stock (in each case, with accompanying purchase rights, if any) and debt securities (i) as may be issuable or deliverable upon exercise of warrants and (ii) as may be required for delivery upon exercise of warrants as a result of anti-dilution provisions.

Subject to note (1), the Securities being registered in this registration statement consist of such an indeterminate amount of debt securities as may be sold from time to time at indeterminate prices by the registrant. If any debt securities are issued at an original issue discount, then the offering price shall be in such greater principal amount (6) as shall result in an aggregate initial offering price not to exceed \$350,000,000. In addition, the Securities being

- (6) registered in this registration statement also consist of such an indeterminate amount of common stock and preferred stock (in each case, with accompanying purchase rights, if any) (i) as may be issuable or deliverable upon the exercise or conversion of debt securities and (ii) as may be required for delivery upon exercise or conversion of debt securities as a result of anti-dilution provisions.
- Subject to note (1), the Securities being registered in this registration statement consist of such an indeterminate (7) amount of units, consisting of common stock, preferred stock, warrants, debt securities, or any combination of such securities, as may be sold from time to time at indeterminate prices by the registrant.

PROSPECTUS

CARDIOVASCULAR SYSTEMS, INC.

\$350,000,000 Common Stock Preferred Stock Warrants Debt Securities Units

The securities covered by this prospectus may include shares of our common stock; shares of preferred stock; warrants to purchase shares of our common stock, preferred stock and/or debt securities; debt securities consisting of debentures, notes or other evidences of indebtedness; or units consisting of any combination of such securities. We may offer the securities from time to time in one or more series or issuances directly to our stockholders or purchasers, or through agents, underwriters or dealers as designated from time to time.

This prospectus provides a general description of the securities we may offer. Each time we sell securities, we will provide specific terms of the securities offered in a supplement to this prospectus. Such a prospectus supplement may also add, update or change information contained in this prospectus. This prospectus may not be used to consummate a sale of securities unless accompanied by the applicable prospectus supplement. We will sell these securities directly to our stockholders or to purchasers or through agents on our behalf or through underwriters or dealers as designated from time to time. If any agents or underwriters are involved in the sale of any of these securities, the applicable prospectus supplement will provide the names of the agents or underwriters and any applicable fees, commissions or discounts.

Our common stock is traded on the Nasdaq Global Select Market under the symbol "CSII." On December 4, 2018, the closing price of our common stock was \$29.76.

Investing in our securities involves risks. See "Risk Factors" on page 2. You should carefully read this prospectus, the documents incorporated herein, and the applicable prospectus supplement before making any investment decision.

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 December 6, 2018

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ABOUT THIS PROSPECTUS

The securities described in this prospectus are part of a registration statement that we filed with the Securities and Exchange Commission, or the SEC, using a "shelf" registration process. Under this shelf registration process, we may offer to sell any combination of the securities described in this prospectus in one or more offerings up to a total dollar amount of \$350,000,000. This prospectus provides you with a general description of the securities we may offer. Each time we sell securities under this shelf registration, we will provide a prospectus supplement that will contain specific information about the terms of such offering. The prospectus supplement may also add, update or change information contained in this prospectus. You should read both this prospectus and any applicable prospectus supplement, including all documents incorporated herein by reference, together with additional information described under "Where You Can Find More Information" below.

We have not authorized any dealer, agent or other person to give any information or to make any representation other than those contained or incorporated by reference in this prospectus and any accompanying prospectus supplement. You must not rely upon any information or representation not contained or incorporated by reference in this prospectus or an accompanying prospectus supplement. This prospectus and the accompanying prospectus supplement, if any, do not constitute an offer to sell or the solicitation of an offer to buy any securities other than the registered securities to which they relate, nor do this prospectus and any accompanying prospectus supplement constitute an offer to sell or the solicitation. You should not assume that the information contained in this prospectus and any accompanying prospectus supplement, if any, is accurate on any date subsequent to the date set forth on the front of the document or that any information we have incorporated by reference is correct on any date subsequent to the date of the document incorporated by reference, even though this prospectus and any accompanying prospectus and any accompanying prospectus supplement are delivered or securities are sold on a later date.

Unless the context otherwise requires, "CSI," the "Company," "we," "us," "our" and similar names refer to Cardiovascular Systems, Inc.

OUR COMPANY

We are a medical technology company leading the way in the effort to successfully treat patients suffering from peripheral and coronary artery diseases, including those with arterial calcium, the most difficult form of arterial disease to treat. We are committed to clinical rigor, constant innovation and a defining drive to set the industry standard to deliver safe and effective medical devices that improve the lives of patients facing these difficult disease states. We have developed patented orbital atherectomy systems, or OAS, for both peripheral and coronary commercial applications. The primary base of our business is catheter-based platforms capable of treating a broad range of vessel sizes and plaque types, including calcified plaque, and addressing many of the limitations associated with other treatment alternatives. As of the date of this prospectus, over 400,000 of our OAS devices have been sold to leading institutions worldwide.

Peripheral

Our peripheral arterial disease, or PAD, products are catheter-based platforms capable of treating a broad range of plaque types in leg arteries both above and below the knee, including calcified plaque, and addressing many of the limitations associated with other existing surgical, catheter and pharmacological treatment alternatives. The micro-invasive devices use small access sheaths that can provide procedural benefits, allow physicians to treat PAD patients in even the small and tortuous vessels located below the knee, and facilitate access through alternative sites in the ankle, foot and wrist, as well as in the groin.

The United States Food and Drug Administration, or FDA, granted 510(k) clearance for the following PAD products as a therapy in patients with PAD. We refer to these products in this prospectus as the Peripheral OAS.

FDA 510(k) Clearance Granted	Product	Commercial Introduction		
August 2007	Diamondback 360 Peripheral ⁽¹⁾	September 2007		
March 2009	Predator 360 ⁽¹⁾	April 2009		
March 2011	Stealth 360 Peripheral OAS	March 2011		
February 2014	Diamondback 360 60cm Peripheral	April 2014		
April 2015	Diamondback 360 Low Profile Peripheral	July 2015		
October 2015	Diamondback 360 1.50 Peripheral	January 2016		
October 2015	Diamondback 360 2.00 Peripheral	January 2016		
June 2017	Diamondback 360 200cm Peripheral	February 2018		
June 2017	Diamondback 360 180cm Peripheral	February 2018		
⁽¹⁾ We are not currently marketing this product.				

Sales of Peripheral OAS during the fiscal year ended June 30, 2018 represented 68% of revenue.

In January 2018, we announced that we entered into an original equipment manufacturer agreement with Integer Holdings Corporation to manufacture our ZILIENT guidewires. The full U.S. market launch of the ZILIENT peripheral guidewires began in early fiscal 2019. We anticipate that additional ZILIENT guidewires for coronary interventions and radial peripheral interventions will become available in the future.

Coronary

Our coronary arterial disease, or CAD, product, the Diamondback 360 Coronary OAS, is a catheter-based platform designed to facilitate stent delivery in patients with CAD who are acceptable candidates for percutaneous transluminal coronary angioplasty or stenting due to de novo, severely calcified coronary artery lesions. The Coronary OAS design is similar to technology used in our Peripheral OAS, customized specifically for the coronary application.

In October 2013, we received premarket approval from the FDA to market the Coronary OAS as a treatment for severely calcified coronary arteries and we commenced a commercial launch that same month. Sales of Coronary OAS during the fiscal year ended June 30, 2018 represented approximately 23% of revenue.

In January 2018, we announced our relationship with OrbusNeich[®] to be the exclusive U.S. distributor of OrbusNeich balloon products. In March 2018, the FDA granted 510(k) clearance for the OrbusNeich 1.0 mm Sapphire[®] II Pro coronary balloon. The 1.0 mm balloon, the first and only 1.0 mm coronary balloon available in the United States, offers industry-leading entry and crossing profiles and is precision engineered for crossing and treating extremely tight and complex lesions. We anticipate OrbusNeich's full coronary balloon product portfolio will become available in the United States during fiscal 2019 and fiscal 2020.

In addition to the Peripheral and Coronary OAS, we offer multiple accessory products required for use with the Peripheral and Coronary OAS. Sales of accessory products, primarily guide wires, represented 9% of revenue during the fiscal year ended June 30, 2018.

International

In November 2016, we signed an exclusive distribution agreement with Medikit Co., Ltd. to sell our Peripheral and Coronary OAS in Japan. In March 2017, we received approval from Japan's Ministry of Health, Labor and Welfare for our Coronary OAS Micro Crown. In February 2018, the Coronary OAS Micro Crown received reimbursement approval in Japan, followed by the first commercial sales in Japan. This represented the first international market for any of our products, and most importantly, an opportunity to provide physicians in Japan a cost-effective treatment option for the difficult-to-treat patient population with severely calcified coronary lesions.

In October 2014, we received CE Mark for our Stealth 360 device. In July 2018, we entered into an exclusive Distribution Agreement with OrbusNeich to sell our Peripheral and Coronary OAS outside of the United States and Japan. In fiscal 2019, we announced the first commercial uses of our Peripheral OAS outside of the United States, which occurred in Hong Kong and Germany, and the first commercial use of our Coronary OAS outside of the United States and Japan, which occurred in Hong Kong.

Our common stock is traded on the Nasdaq Global Select Market under the symbol "CSII." On December 4, 2018, the closing price of our common stock was \$29.76. As of December 4, 2018, the aggregate market value of our outstanding common stock held by non-affiliates was approximately \$1,005,000,000, based on 34,746,296 shares of outstanding common stock, of which approximately 33,775,841 shares are held by non-affiliates, and a per share price of \$29.76 based on the closing sale price of our common stock on December 4, 2018.

Our principal executive office is located at 1225 Old Highway 8 Northwest, St. Paul, Minnesota 55112. Our telephone number is (651) 259-1600, and our website is www.csi360.com. The information contained in or connected to our website is not incorporated by reference into, and should not be considered part of, this prospectus.

We have received 22 federal registrations in the U.S. Patent and Trademark Office ("USPTO") of certain marks, including "CSP" (a first and second), "CSP" (a first and second), "CSP", "CSIQ (Stylized)", "DIAMONDBACK 360" (a first and second), "DIAMONDBACK 360(Stylized)", "GLIDEASSISP", "STAY A STEP AHEAD OF PAP", "STEALTH 360", "TAKE A STAND AGAINST AMPUTATION®", "TAKE A STAND AGAINST AMPUTATION (Stylized), "VIPERWIRE", "VIPERWIRE ADVANCE (Stylized)", "VIPERSLIDE", VIPERSLIDE", "VIPERTRACK" and "VIPERTRACK" (Stylized)". We have applied for federal trademark registration with the USPTO of certain marks, including "VIPERCATH", "ZILIENT", and "ZILIENT (Stylized)". All other trademarks, trade names and service marks appearing in this prospectus are the property of their respective owners.

RISK FACTORS

Investing in our securities involves risk. You should consider the risks, uncertainties and assumptions discussed under the heading "Risk Factors" in our Annual Report on Form 10-K for the fiscal year ended June 30, 2018 filed on August 23, 2018 with the SEC, which is incorporated herein by reference, and may be amended, supplemented or superseded from time to time by other reports we file with the SEC in the future. The risks and uncertainties we have described are not the only ones we face. Additional risks and uncertainties not presently known to us or that we currently deem immaterial may also affect our operations. If any of these risks were to occur, our business, financial condition, and results of operations could be severely harmed. This could cause the trading price of our common stock to decline, and you could lose all or part of your investment.

In addition, any prospectus supplement applicable to each offering of our securities will contain a discussion of the risks applicable to such an investment in us. Prior to making a decision about investing in our securities, you should carefully consider the specific factors discussed under the heading "Risk Factors" in the applicable prospectus supplement, together with all of the other information contained or incorporated by reference in such prospectus supplement or appearing or incorporated by reference in this prospectus.

FORWARD-LOOKING STATEMENTS

This prospectus, any prospectus supplement and the other documents we have filed with the SEC that are incorporated herein by reference contain forward-looking statements within the meaning of the Private Securities Litigation Reform Act of 1995 that involve risks and uncertainties, as well as assumptions that, if they never materialize or prove incorrect, could cause our results to differ materially from those expressed or implied by such forward-looking statements. All statements other than statements of historical fact are statements that could be deemed forward-looking statements, including any projections of financing needs, revenue, expenses, earnings or losses from operations, or other financial items; any statements of the plans, strategies and objectives of management for future operations; any statements concerning product research, development and commercialization plans and timelines; any statements of assumptions underlying any of the foregoing. In addition, forward-looking statements may contain the words "believe," "anticipate," "expect," "estimate," "intend," "plan," "project," "will be," "will continue," "will result," "seek, "might," or any variations of such words or other words with similar meanings.

Given these uncertainties, you should not place undue reliance on these forward-looking statements. You should read this prospectus, any supplements to this prospectus and the documents that we reference in this prospectus with the understanding that our actual future results may be materially different from what we expect. Except as required by law, we do not undertake any obligation to update or revise any forward-looking statements contained in this prospectus and any supplements to this prospectus, whether as a result of new information, future events or otherwise.

USE OF PROCEEDS

Except as otherwise provided in the applicable prospectus supplement, we intend to use the net proceeds from the sale of the securities covered by this prospectus for general corporate purposes, which may include acquisitions or investments, clinical studies and publications, market expansion, new product development or acquisition, or general working capital needs. Additional information on the use of net proceeds from the sale of securities covered by this prospectus supplement relating to the specific offering.

PLAN OF DISTRIBUTION

We may sell the securities offered through this prospectus (1) to or through underwriters or dealers, (2) directly to purchasers, including our affiliates, (3) through agents, or (4) through a combination of any of these methods. The

securities may be distributed at a fixed price or prices, which may be changed, market prices prevailing at the time of sale, prices related to the prevailing market prices, or negotiated prices. The prospectus supplement will include the following information:

the terms of the offering;the names of any underwriters or agents;the name or names of any managing underwriter or underwriters;the purchase price of the securities;

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the net proceeds from the sale of the securities;
any delayed delivery arrangements;
any underwriting discounts, commissions and other items constituting underwriters' compensation;
any initial public offering price;
any discounts or concessions allowed or reallowed or paid to dealers; and
any commissions paid to agents.

Sale Through Underwriters or Dealers

If underwriters are used in the sale, the underwriters will acquire the securities for their own account, including through underwriting, purchase, security lending or repurchase agreements with us. The underwriters may resell the securities from time to time in one or more transactions, including negotiated transactions. Underwriters may sell the securities in order to facilitate transactions in any of our other securities (described in this prospectus or otherwise), including other public or private transactions and short sales. Underwriters may offer securities to the public either through underwriting syndicates represented by one or more managing underwriters or directly by one or more firms acting as underwriters. Unless otherwise indicated in the prospectus supplement, the obligations of the underwriters to purchase the securities if they purchase any of them. The underwriters may change from time to time any initial public offering price and any discounts or concessions allowed or reallowed or paid to dealers. The prospectus supplement will include the names of the principal underwriters, the respective amount of securities underwriten, the nature of the obligation of the underwriters to take the securities and the nature of any material relationship between an underwriter and us.

If dealers are used in the sale of securities offered through this prospectus, we will sell the securities to them as principals. They may then resell those securities to the public at varying prices determined by the dealers at the time of resale. The prospectus supplement will include the names of the dealers and the terms of the transaction.

Direct Sales and Sales Through Agents

We may sell the securities offered through this prospectus directly. In this case, no underwriters or agents would be involved. Such securities may also be sold through agents designated from time to time. The prospectus supplement will name any agent involved in the offer or sale of the offered securities and will describe any commissions payable to the agent by us. Unless otherwise indicated in the prospectus supplement, any agent will agree to use its reasonable best efforts to solicit purchases for the period of its appointment.

We may sell the securities directly to institutional investors or others who may be deemed to be underwriters within the meaning of the Securities Act of 1933, as amended, with respect to any sale of those securities. The terms of any such sales will be described in the prospectus supplement.

Delayed Delivery Contracts

If the prospectus supplement indicates, we may authorize agents, underwriters or dealers to solicit offers from certain types of institutions to purchase securities at the public offering price under delayed delivery contracts. These contracts would provide for payment and delivery on a specified date in the future. The contracts would be subject only to those conditions described in the prospectus supplement. The applicable prospectus supplement will describe the commission payable for solicitation of those contracts.

Market Making, Stabilization and Other Transactions

Unless the applicable prospectus supplement states otherwise, each series of securities offered by us will be a new issue and will have no established trading market, other than our common stock, which is listed on the Nasdaq Global Select Market. We may elect to list any series of offered securities on an exchange. Any underwriters that we use in the sale of offered securities may make a market in such securities, but may discontinue such market making at any time without notice. Therefore, we cannot assure you that the securities will have a liquid trading market.

Any underwriter may also engage in stabilizing transactions, syndicate covering transactions and penalty bids in accordance with Rule 104 under the Securities Exchange Act of 1934, as amended. Stabilizing transactions involve bids to purchase the underlying security in the open market for the purpose of pegging, fixing or maintaining the price of the securities. Syndicate covering

transactions involve purchases of the securities in the open market after the distribution has been completed in order to cover syndicate short positions.

Penalty bids permit the underwriters to reclaim a selling concession from a syndicate member when the securities originally sold by the syndicate member are purchased in a syndicate covering transaction to cover syndicate short positions. Stabilizing transactions, syndicate covering transactions and penalty bids may cause the price of the securities to be higher than it would be in the absence of the transactions. The underwriters may, if they commence these transactions, discontinue them at any time.

Derivative Transactions and Hedging

We, the underwriters or other agents may engage in derivative transactions involving the securities. These derivatives may consist of short sale transactions and other hedging activities. The underwriters or agents may acquire a long or short position in the securities, hold or resell securities acquired and purchase options or futures on the securities and other derivative instruments with returns linked to or related to changes in the price of the securities. In order to facilitate these derivative transactions, we may enter into security lending or repurchase agreements with the underwriters or agents. The underwriters or agents may effect the derivative transactions through sales of the securities to the public, including short sales, or by lending the securities in order to facilitate short sale transactions by others. The underwriters or agents may also use the securities purchased or borrowed from us or others (or, in the case of derivatives, securities received from us in settlement of those derivatives) to directly or indirectly settle sales of the securities or close out any related open borrowings of the securities.

Electronic Auctions

We may also make sales through the Internet or through other electronic means. Since we may from time to time elect to offer securities directly to the public, with or without the involvement of agents, underwriters or dealers, utilizing the Internet or other forms of electronic bidding or ordering systems for the pricing and allocation of such securities, you should pay particular attention to the description of that system we will provide in a prospectus supplement.

Such electronic system may allow bidders to directly participate, through electronic access to an auction site, by submitting conditional offers to buy that are subject to acceptance by us, which may directly affect the price or other terms and conditions at which such securities are sold. These bidding or ordering systems may present to each bidder, on a so-called "real-time" basis, relevant information to assist in making a bid, such as the clearing spread at which the offering would be sold, based on the bids submitted, and whether a bidder's individual bids would be accepted, prorated or rejected. For example, in the case of a debt security, the clearing spread could be indicated as a number of "basis points" above an index treasury note. Of course, many pricing methods can and may also be used.

Upon completion of such an electronic auction process, securities will be allocated based on prices bid, terms of bid or other factors. The final offering price at which securities would be sold and the allocation of securities among bidders would be based in whole or in part on the results of the Internet or other electronic bidding process or auction.

General Information

Agents, underwriters, and dealers may be entitled, under agreements entered into with us, to indemnification by us against certain liabilities, including liabilities under the Securities Act.

DESCRIPTION OF COMMON STOCK

The following summary of the terms of our common stock is subject to and qualified in its entirety by reference to our Restated Certificate of Incorporation, as amended, and Amended and Restated Bylaws, copies of which are on file

with the SEC as exhibits to previous SEC filings. Please refer to "Where You Can Find More Information" below for directions on obtaining these documents.

As of December 4, 2018, we are authorized to issue 100,000,000 shares of common stock, par value \$0.001 per share. As of December 4, 2018, we had 34,746,296 shares of common stock outstanding.

General

The holders of our common stock are entitled to one vote for each share on all matters voted on by stockholders, including elections of directors, and, except as otherwise required by law or provided in any resolution adopted by our board with respect to any series of preferred stock, the holders of such shares possess all voting power. Our Restated Certificate of Incorporation does not provide for cumulative voting in the election of directors. No cash dividends have been previously paid on our common stock and none are anticipated during fiscal year 2019. Our common stock is not redeemable.

The holders of our common stock have no preemptive rights. The rights, preferences and privileges of holders of common stock are subject to, and may be adversely affected by, the rights of the holders of shares of any series of preferred stock that we may designate and issue in the future.

Transfer Agent and Registrar

The transfer agent and registrar for our common stock is American Stock Transfer & Trust Company.

Nasdaq Global Select Market

Our common stock is listed on the Nasdaq Global Select Market under the symbol "CSII."

Anti-Takeover Effect of Delaware Law and Certain Charter and Bylaw Provisions

Our Restated Certificate of Incorporation and Amended and Restated Bylaws contain provisions that could have the effect of discouraging potential acquisition proposals or tender offers or delaying or preventing a change of control of our company. These provisions are as follows:

special meetings of stockholders may be called only by the Chairman of the Board, the Chief Executive Officer, or by a majority of our board of directors;

our board is a classified board, with three separate classes of directors each serving a three-year term; only business brought before an annual meeting by our board of directors or by a stockholder who complies with the procedures set forth in the Amended and Restated Bylaws may be transacted at an annual meeting of stockholders; advance notice is required for specified stockholder actions, such as the nomination of directors and stockholder proposals; and

we may issue, without stockholder approval, up to 5,000,000 shares of preferred stock that could adversely affect the rights and powers of the holders of our common stock.

We are subject to the provisions of Section 203 of the General Corporation Law of the State of Delaware, an anti-takeover law. In general, Section 203 prohibits a publicly held Delaware corporation from engaging in a "business combination" with an "interested stockholder" for a period of three years after the date of the transaction in which the person became an interested stockholder, unless the business combination is approved in a prescribed manner. For purposes of Section 203, a "business combination" includes a merger, asset sale or other transaction resulting in a financial benefit to the interested stockholder, and an "interested stockholder" is a person who owns 15% or more of the voting stock of a corporation, or any affiliate or associate of a corporation who, within three years prior, did own 15% or more of the voting stock of that corporation.

Indemnification of Directors and Officers

Section 145 of the Delaware General Corporation Law provides that a corporation may indemnify any person who was or is a party or is threatened to be made a party to any threatened, pending or completed action, suit or

proceeding, whether civil, criminal, administrative or investigative, other than an action by or in the right of the corporation, by reason of the fact that the person is or was a director, officer, employee or agent of the corporation or is or was serving at the corporation's request as a director, officer, employee or agent of another corporation, partnership, joint venture, trust or other enterprise, against expenses, including attorneys' fees, judgments, fines and amounts paid in settlement actually and reasonably incurred by the person in connection with the action, suit or proceeding if the person acted in good faith and in a manner the person reasonably believed to be in or not opposed to the best interests of the corporation, and, with respect to any criminal action or proceeding, had no reasonable cause to believe the person's

conduct was unlawful. The power to indemnify applies to actions brought by or in the right of the corporation as well, but only to the extent of expenses, including attorneys' fees but excluding judgments, fines and amounts paid in settlement, actually and reasonably incurred by the person in connection with the defense or settlement of the action or suit if the person acted in good faith and in a manner the person reasonably believed to be in or not opposed to the best interests of the corporation and except that no indemnification shall be made in respect of any claim, issue or matter as to which such person shall have been adjudged to be liable to the corporation unless and only to the extent that a court of competent jurisdiction shall determine that such indemnity is proper.

Section 145(g) of the Delaware General Corporation Law provides that a corporation shall have the power to purchase and maintain insurance on behalf of its officers, directors, employees and agents, against any liability asserted against and incurred by such persons in any such capacity.

Section 102(b)(7) of the General Corporation Law of the State of Delaware provides that a corporation may eliminate or limit the personal liability of a director to the corporation or its stockholders for monetary damages for breach of fiduciary duty as a director, provided that such provision shall not eliminate or limit the liability of a director (i) for any breach of the director's duty of loyalty to the corporation or its stockholders, (ii) for acts or omissions not in good faith or which involve intentional misconduct or a knowing violation of law, (iii) under Section 174 of the General Corporation Law of the State of Delaware, or (iv) for any transaction from which the director derived an improper personal benefit. No such provision shall eliminate or limit the liability of a director for any act or omission occurring prior to the date when such provision becomes effective.

Our Amended and Restated Bylaws provide that we shall indemnify our directors and officers to the fullest extent permitted by the laws of the State of Delaware or any other applicable law. As permitted by our Amended and Restated Bylaws, we have additionally entered into indemnification agreements with each of our non-employee directors that provide for indemnification and expense advancement to the fullest extent permitted by the laws of the State of Delaware.

Our Amended and Restated Bylaws provide that we may purchase and maintain insurance policies on behalf of our directors and officers against specified liabilities for actions taken in their capacities as such, including liabilities under the Securities Act. We have obtained directors and officers' liability insurance to cover liabilities our directors and officers may incur in connection with their services to us.

Our Restated Certificate of Incorporation, as amended, provides that the liability of our directors for monetary damages shall be eliminated to the fullest extent under applicable law.

SEC Position on Indemnification for Securities Act Liabilities

Insofar as indemnification for liabilities arising under the Securities Act may be permitted for directors, officers or persons controlling our company, we understand that it is the SEC's opinion that such indemnification is against public policy as expressed in the Securities Act and, therefore, is unenforceable.

DESCRIPTION OF PREFERRED STOCK

We are authorized to issue up to 5,000,000 shares of preferred stock, par value \$0.001 per share. Our board is authorized to provide for the issue of all or any of the shares of the preferred stock in one or more series, and to fix the number of shares and to determine or alter for each such series, such voting powers, full or limited, or no voting powers, and such designation, preferences, and relative, participating, optional, or other rights and such qualifications, limitations, or restrictions thereof, as stated in our board's resolutions. Our board is also authorized to increase or decrease the number of shares of any series subsequent to the issuance of shares of that series, but not below the number of shares of such series then outstanding. The number of authorized shares of preferred stock may be

increased or decreased (but not below the number of shares thereof then outstanding) by the affirmative vote of the holders of a majority of the common stock, without a vote of the holders of the preferred stock, or of any series thereof, unless a vote of any such holders is required pursuant to the terms of any certificate of designation filed with respect to any series of preferred stock.

The authority possessed by our board to issue preferred stock could potentially be used to discourage attempts by third parties to obtain control of us through a merger, tender offer, proxy contest or otherwise by making such attempts more difficult or more costly. Our board may issue preferred stock with voting rights or conversion rights that, if exercised, could adversely affect the voting power of the holders of common stock. There are no current agreements or understandings with respect to the issuance of preferred stock.

If we offer a specific class or series of preferred stock under this prospectus, we will describe the terms of the preferred stock in the prospectus supplement for such offering and will file a copy of the certificate establishing the terms of the preferred stock with the SEC. To the extent required and applicable, this description will include:

the title and stated value;

the number of shares offered, the liquidation preference per share and the purchase price;

the dividend rate(s), period(s) and/or payment date(s), or method(s) of calculation for such dividends;

whether dividends will be cumulative or non-cumulative and, if cumulative, the date from which dividends will accumulate;

the procedures for any auction and remarketing, if any;

the provisions for a sinking fund, if any;

the provisions for redemption, if applicable;

any listing of the preferred stock on any securities exchange or market;

whether the preferred stock will be convertible into our common stock, and, if applicable, the conversion price (or how it will be calculated) and conversion period;

whether the preferred stock will be exchangeable into debt securities, and, if applicable, the exchange price (or how it will be calculated) and exchange period;

voting rights, if any, of the preferred stock;

a discussion of any material U.S. federal income tax considerations applicable to the preferred stock;

the relative ranking and preferences of the preferred stock as to dividend rights and rights upon liquidation,

dissolution or winding up of the affairs of our company; and

any material limitations on issuance of any class or series of preferred stock ranking senior to or on a parity with the series of preferred stock as to dividend rights and rights upon liquidation, dissolution or winding up of our company.

The preferred stock offered by this prospectus, when issued, will not have, or be subject to, any preemptive or similar rights.

Transfer Agent and Registrar

The transfer agent and registrar for any series or class of preferred stock will be set forth in each applicable prospectus supplement.

DESCRIPTION OF WARRANTS

We may issue warrants to purchase shares of our common stock, preferred stock and/or debt securities in one or more series together with other securities or separately, as described in each applicable prospectus supplement. Below is a description of certain general terms and provisions of the warrants that we may offer. Particular terms of the warrants will be described in the applicable warrant agreements and the applicable prospectus supplement for the warrants.

The applicable prospectus supplement will contain, where applicable, the following terms of and other information relating to the warrants:

the specific designation and aggregate number of, and the price at which we will issue, the warrants; the currency or currency units in which the offering price, if any, and the exercise price are payable;

the designation, amount and terms of the securities purchasable upon exercise of the warrants;

if applicable, the exercise price for shares of our common stock and the number of shares of common stock to be received upon exercise of the warrants;

if applicable, the exercise price for shares of our preferred stock, the number of shares of preferred stock to be received upon exercise, and a description of that class or series of our preferred stock;

if applicable, the exercise price for our debt securities, the amount of our debt securities to be received upon exercise, and a description of that series of debt securities;

the date on which the right to exercise the warrants will begin and the date on which that right will expire or, if the warrants may not be continuously exercised throughout that period, the specific date or dates on which the warrants may be exercised;

whether the warrants will be issued in fully registered form or bearer form, in definitive or global form or in any combination of these forms, although, in any case, the form of a warrant included in a unit will correspond to the form of the unit and of any security included in that unit;

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any applicable material U.S. federal income tax consequences;

the identity of the warrant agent for the warrants and of any other depositaries, execution or paying agents, transfer agents, registrars or other agents;

the proposed listing, if any, of the warrants or any securities purchasable upon exercise of the warrants on any securities exchange;

if applicable, the date from and after which the warrants and the common stock, preferred stock and/or debt securities will be separately transferable;

if applicable, the minimum or maximum amount of the warrants that may be exercised at any one time;

information with respect to book-entry procedures, if any;

the anti-dilution provisions of the warrants, if any;

any redemption or call provisions;

whether the warrants are to be sold separately or with other securities as parts of units; and

any additional terms of the warrants, including terms, procedures and limitations relating to the exchange and exercise of the warrants.

Transfer Agent and Registrar

The transfer agent and registrar for any warrants will be set forth in the applicable prospectus supplement.

DESCRIPTION OF DEBT SECURITIES

We will issue the debt securities offered by this prospectus and any accompanying prospectus supplement under an indenture to be entered into between us and the trustee identified in the applicable prospectus supplement. The terms of the debt securities will include those stated in the indenture and those made part of the indenture by reference to the Trust Indenture Act of 1939, as in effect on the date of the indenture. We have filed a copy of the form of indenture as an exhibit to the registration statement in which this prospectus is included. The indenture will be subject to and governed by the terms of the Trust Indenture Act of 1939.

We may offer under this prospectus up to an aggregate principal amount of \$350,000,000 in debt securities, or if debt securities are issued at a discount, or in a foreign currency, foreign currency units or composite currency, the principal amount as may be sold for an initial public offering price of up to \$350,000,000. Unless otherwise specified in the applicable prospectus supplement, the debt securities will represent our direct, unsecured obligations and will rank equally with all of our other unsecured indebtedness.

The following statements relating to the debt securities and the indenture are summaries, qualified in their entirety by reference to the detailed provisions of the debt securities we issue and the indenture we enter into with the trustee.

General

We may issue the debt securities in one or more series with the same or various maturities, at par, at a premium, or at a discount. We will describe the particular terms of each series of debt securities in a prospectus supplement relating to that series, which we will file with the SEC.

The prospectus supplement will set forth, to the extent required and applicable, the following terms of the debt securities in respect of which the prospectus supplement is delivered:

the title of the series;

the aggregate principal amount, and, if a series, the total amount authorized and the total amount outstanding; the issue price or prices, expressed as a percentage of the aggregate principal amount of the debt securities; any limit on the aggregate principal amount; the date or dates on which principal is payable;

the interest rate or rates (which may be fixed or variable) or, if applicable, the method used to determine such rate or rates;

the date or dates from which interest, if any, will be payable and any regular record date for the interest payable; the place or places where principal and, if applicable, premium and interest, is payable;

the terms and conditions upon which we may, or the holders may require us to, redeem or repurchase the debt securities;

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the denominations in which such debt securities may be issuable, if other than denominations of \$1,000 or any integral multiple of that number;

• whether the debt securities are to be issuable in the form of certificated securities (as described below) or global securities (as described below);

the portion of principal amount that will be payable upon declaration of acceleration of the maturity date if other than the principal amount of the debt securities;

the currency of denomination;

the designation of the currency, currencies or currency units in which payment of principal and, if applicable, premium and interest, will be made;

if payments of principal and, if applicable, premium or interest, on the debt securities are to be made in one or more currencies or currency units other than the currency of denomination, the manner in which the exchange rate with respect to such payments will be determined;

if amounts of principal and, if applicable, premium and interest may be determined by reference to an index based on a currency or currencies or by reference to a commodity, commodity index, stock exchange index or financial index, then the manner in which such amounts will be determined;

the provisions, if any, relating to any collateral provided for such debt securities;

any addition to or change in the covenants and/or the acceleration provisions described in this prospectus or in the indenture;

any events of default, if not otherwise described below under "Events of Default";

the terms and conditions, if any, for conversion into or exchange for shares of our common stock or preferred stock; any depositaries, interest rate calculation agents, exchange rate calculation agents or other agents; and the terms and conditions, if any, upon which the debt securities shall be subordinated in right of payment to our other indebtedness.

We may issue discount debt securities that provide for an amount less than the stated principal amount to be due and payable upon acceleration of the maturity of such debt securities in accordance with the terms of the indenture. We may also issue debt securities in bearer form, with or without coupons. If we issue discount debt securities or debt securities in bearer form, we will describe material U.S. federal income tax considerations and other material special considerations which apply to these debt securities in the applicable prospectus supplement.

We may issue debt securities denominated in or payable in a foreign currency or currencies or a foreign currency unit or units. If we do, we will describe the restrictions, elections, and general tax considerations relating to the debt securities and the foreign currency or currencies or foreign currency unit or units in the applicable prospectus supplement.

Debt securities offered under this prospectus and any prospectus supplement will be subordinated in right of payment to certain of our outstanding senior indebtedness, including our credit facility. In addition, we will seek the consent of the holders of any such senior indebtedness prior to issuing any debt securities under this prospectus to the extent required by the agreements evidencing such senior indebtedness.

Exchange and/or Conversion Rights

We may issue debt securities that can be exchanged for or converted into shares of our common stock or preferred stock. If we do, we will describe the terms of exchange or conversion in the prospectus supplement relating to these debt securities.

Transfer and Exchange

We may issue debt securities that will be represented by either:

"book-entry securities," which means that there will be one or more global securities registered in the name of a depositary or a nominee of a depositary; or

"certificated securities," which means that they will be represented by a certificate issued in definitive registered form.

We will specify in the prospectus supplement applicable to a particular offering whether the debt securities offered will be book-entry or certificated securities.

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Certificated Debt Securities

If you hold certificated debt securities, you may transfer or exchange such debt securities at the trustee's office or at the paying agent's office or agency in accordance with the terms of the indenture. You will not be charged a service charge for any transfer or exchange of certificated debt securities but may be required to pay an amount sufficient to cover any tax or other governmental charge payable in connection with such transfer or exchange.

You may effect the transfer of certificated debt securities and of the right to receive the principal of, premium, and/or interest, if any, on the certificated debt securities only by surrendering the certificate representing the certificated debt securities and having us or the trustee issue a new certificate to the new holder.

Global Securities

If we decide to issue debt securities in the form of one or more global securities, then we will register the global securities in the name of the depositary for the global securities or the nominee of the depositary, and the global securities will be delivered by the trustee to the depositary for credit to the accounts of the holders of beneficial interests in the debt securities.

The prospectus supplement will describe the specific terms of the depositary arrangement for debt securities of a series that are issued in global form. None of us, the trustee, any payment agent or the security registrar will have any responsibility or liability for any aspect of the records relating to or payments made on account of beneficial ownership interests in a global debt security or for maintaining, supervising or reviewing any records relating to these beneficial ownership interests.

No Protection in the Event of Change of Control

The indenture does not have any covenants or other provisions providing for a put or increased interest or otherwise that would afford holders of our debt securities additional protection in the event of a recapitalization transaction, a change of control, or a highly leveraged transaction. If we offer any covenants or provisions of this type with respect to any debt securities covered by this prospectus, we will describe them in the applicable prospectus supplement.

Covenants

Unless otherwise indicated in this prospectus or the applicable prospectus supplement, our debt securities will not have the benefit of any covenants that limit or restrict our business or operations, the pledging of our assets or the incurrence by us of indebtedness. We will describe in the applicable prospectus supplement any material covenants in respect of a series of debt securities.

Consolidation, Merger and Sale of Assets

The form of indenture provides that we will not consolidate with or merge into any other person or convey, transfer, sell or lease our properties and assets substantially as an entirety to any person, unless:

the person formed by the consolidation or into or with which we are merged or the person to which our properties and assets are conveyed, transferred, sold or leased, is a corporation organized and existing under the laws of the United States, any state or the District of Columbia or a corporation or comparable legal entity organized under the laws of a foreign jurisdiction and, if we are not the surviving person, the surviving person has expressly assumed all of our obligations, including the payment of the principal of and, premium, if any, and interest on the debt securities and the performance of the other covenants under the indenture; and

immediately before and immediately after giving effect to the transaction, no event of default, and no event which, after notice or lapse of time or both, would become an event of default, has occurred and is continuing under the indenture.

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Events of Default

Unless otherwise specified in the applicable prospectus supplement, the following events will be events of default under the indenture with respect to debt securities of any series:

we fail to pay any principal or premium, if any, when it becomes due;

we fail to pay any interest within 30 days after it becomes due;

we fail to observe or perform any other covenant in the debt securities or the indenture for 60 days after written notice specifying the failure from the trustee or the holders of not less than 25% in aggregate principal amount of the outstanding debt securities of that series; and

certain events involving bankruptcy, insolvency or reorganization of us or any of our significant subsidiaries.

The trustee may withhold notice to the holders of the debt securities of any series of any default, except in payment of principal of or premium, if any, or interest on the debt securities of a series, if the trustee considers it to be in the best interest of the holders of the debt securities of that series to do so.

If an event of default (other than an event of default resulting from certain events of bankruptcy, insolvency or reorganization) occurs, and is continuing, then the trustee or the holders of not less than 25% in aggregate principal amount of the outstanding debt securities of any series may accelerate the maturity of the debt securities. If this happens, the entire principal amount, plus the premium, if any, of all the outstanding debt securities of the affected series plus accrued interest to the date of acceleration will be immediately due and payable. At any time after the acceleration, but before a judgment or decree based on such acceleration is obtained by the trustee, the holders of a majority in aggregate principal amount of outstanding debt securities of such series may rescind and annul such acceleration if:

all events of default (other than nonpayment of accelerated principal, premium or interest) have been cured or waived; all lawful interest on overdue interest and overdue principal has been paid; and the rescission would not conflict with any judgment or decree.

In addition, if the acceleration occurs at any time when we have outstanding indebtedness that is senior to the debt securities, the payment of the principal amount of outstanding debt securities may be subordinated in right of payment to the prior payment of any amounts due under the senior indebtedness, in which case the holders of debt securities will be entitled to payment under the terms prescribed in the instruments evidencing the senior indebtedness and the indenture.

If an event of default resulting from certain events of bankruptcy, insolvency or reorganization occurs, the principal, premium and interest amount with respect to all of the debt securities of any series will be due and payable immediately without any declaration or other act on the part of the trustee or the holders of the debt securities of that series.

The holders of a majority in principal amount of the outstanding debt securities of a series will have the right to waive any existing default or compliance with any provision of the indenture or the debt securities of that series and to direct the time, method and place of conducting any proceeding for any remedy available to the trustee, subject to certain limitations specified in the indenture.

No holder of any debt security of a series will have any right to institute any proceeding with respect to the indenture or for any remedy under the indenture, unless:

the holder gives to the trustee written notice of a continuing event of default;

the holders of at least 25% in aggregate principal amount of the outstanding debt securities of the affected series make a written request and offer reasonable indemnity to the trustee to institute a proceeding as trustee;

the trustee fails to institute a proceeding within 60 days after such request; and

the holders of a majority in aggregate principal amount of the outstanding debt securities of the affected series do not give the trustee a direction inconsistent with such request during such 60-day period.

These limitations do not, however, apply to a suit instituted for payment on debt securities of any series on or after the due dates expressed in the debt securities.

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We will periodically deliver certificates to the trustee regarding our compliance with our obligations under the indenture.

Modification and Waiver

From time to time, we and the trustee may, without the consent of holders of the debt securities of one or more series, amend the indenture or the debt securities of one or more series, or supplement the indenture, for certain specified purposes, including:

to provide that the surviving entity following a change of control permitted under the indenture will assume all of our obligations under the indenture and debt securities;

to provide for certificated debt securities in addition to uncertificated debt securities;

to comply with any requirements of the SEC under the Trust Indenture Act of 1939;

to provide for the issuance of and establish the form and terms and conditions of debt securities of any series as permitted by the indenture;

to cure any ambiguity, defect or inconsistency, or make any other change that does not materially and adversely affect the rights of any holder; and

to appoint a successor trustee under the indenture with respect to one or more series.

From time to time we and the trustee may, with the consent of holders of at least a majority in principal amount of an outstanding series of debt securities, amend or supplement the indenture or the debt securities series, or waive compliance in a particular instance by us with any provision of the indenture or the debt securities. We may not, however, without the consent of each holder affected by such action, modify or supplement the indenture or the debt securities in order to:

reduce the amount of debt securities whose holders must consent to an amendment, supplement, or waiver to the indenture or such debt security;

reduce the rate of or change the time for payment of interest or reduce the amount of or postpone the date for payment of sinking fund or analogous obligations;

reduce the principal of or change the stated maturity of the debt securities;

make any debt security payable in money other than that stated in the debt security;

change the amount or time of any payment required or reduce the premium payable upon any redemption, or change the time before which no such redemption may be made;

waive a default in the payment of the principal of, premium, if any, or interest on the debt securities or a redemption payment;

waive a redemption payment with respect to any debt securities or change any provision with respect to redemption of debt securities; or

take any other action otherwise prohibited by the indenture to be taken without the consent of each holder affected by the action.

Defeasance of Debt Securities and Certain Covenants in Certain Circumstances

The indenture permits us, at any time, to elect to discharge our obligations with respect to one or more series of debt securities by following certain procedures described in the indenture. These procedures will allow us either:

to defease and be discharged from any and all of our obligations with respect to any debt securities, except for the following obligations (which discharge is referred to as "legal defeasance"):

-to register the transfer or exchange of such debt securities;

-to replace temporary or mutilated, destroyed, lost or stolen debt securities;

-to compensate and indemnify the trustee; or

-to maintain an office or agency in respect of the debt securities and to hold monies for payment in trust; or to be released from our obligations with respect to the debt securities under certain covenants contained in the indenture, as well as any additional covenants which may be contained in the applicable supplemental indenture (which release is referred to as "covenant defeasance"). In order to exercise either defeasance option, we must deposit with the trustee or other qualifying trustee, in trust for that purpose:

money;

U.S. Government Obligations (as described below) or Foreign Government Obligations (as described below) that through the scheduled payment of principal and interest in accordance with their terms will provide money; or a combination of money and/or U.S. Government Obligations and/or Foreign Government Obligations sufficient in the written opinion of a nationally-recognized firm of independent accountants to provide money;

that, in each case specified above, provides a sufficient amount to pay the principal of, premium, if any, and interest, if any, on the debt securities of the series, on the scheduled due dates or on a selected date of redemption in accordance with the terms of the indenture.

In addition, defeasance may be effected only if, among other things:

in the case of either legal or covenant defeasance, we deliver to the trustee an opinion of counsel, as specified in the indenture, stating that as a result of the defeasance neither the trust nor the trustee will be required to register as an investment company under the Investment Company Act of 1940;

in the case of legal defeasance, we deliver to the trustee an opinion of counsel stating that we have received from, or there has been published by, the Internal Revenue Service a ruling to the effect that, or there has been a change in any applicable federal income tax law with the effect that (and the opinion shall confirm that), the holders of outstanding debt securities will not recognize income, gain or loss for U.S. federal income tax purposes solely as a result of such legal defeasance and will be subject to U.S. federal income tax on the same amounts, in the same manner, including as a result of prepayment, and at the same times as would have been the case if legal defeasance had not occurred; in the case of covenant defeasance, we deliver to the trustee an opinion of counsel to the effect that the holders of the outstanding debt securities will not recognize income, gain or loss for U.S. federal income tax purposes as a result of covenant defeasance and will be subject to U.S. federal income tax on the same amounts, in the same manner and at the same times as would have been the case if covenant defeasance had not occurred; and certain other conditions described in the indenture are satisfied.

If we fail to comply with our remaining obligations under the indenture and applicable supplemental indenture after a covenant defeasance of the indenture and applicable supplemental indenture, and the debt securities are declared due and payable because of the occurrence of any undefeased event of default, the amount of money and/or U.S. Government Obligations and/or Foreign Government Obligations on deposit with the trustee could be insufficient to pay amounts due under the debt securities of the affected series at the time of acceleration. We will, however, remain liable in respect of these payments.

The term "U.S. Government Obligations" as used in the above discussion means securities that are direct obligations of or non-callable obligations guaranteed by the United States of America for the payment of which obligation or guarantee the full faith and credit of the United States of America is pledged.

The term "Foreign Government Obligations" as used in the above discussion means, with respect to debt securities of any series that are denominated in a currency other than U.S. dollars, (1) direct obligations of the government that issued or caused to be issued such currency for the payment of which obligations its full faith and credit is pledged or (2) obligations of a person controlled or supervised by or acting as an agent or instrumentality of such government the timely payment of which is unconditionally guaranteed as a full faith and credit obligation by that government, which in either case under clauses (1) or (2), are not callable or redeemable at the option of the issuer.

Regarding the Trustee

We will identify the trustee with respect to any series of debt securities in the prospectus supplement relating to the applicable debt securities. You should note that if the trustee becomes a creditor of ours, the indenture and the Trust Indenture Act of 1939 limit the rights of the trustee to obtain payment of claims in certain cases, or to realize on certain property received in respect of any such claim, as security or otherwise. The trustee and its affiliates may engage in, and will be permitted to continue to engage in, other transactions with us and our affiliates. If, however, the trustee acquires any "conflicting interest" within the meaning of the Trust Indenture Act of 1939, it must eliminate such conflict or resign.

The holders of a majority in principal amount of the then outstanding debt securities of any series may direct the time, method and place of conducting any proceeding for exercising any remedy available to the trustee. If an event of default occurs and is continuing, the trustee, in the exercise of its rights and powers, must use the degree of care and skill of a prudent person in the conduct of his or her own affairs. Subject to that provision, the trustee will be under no obligation to exercise any of its rights or powers under the indenture at the request of any of the holders of the debt securities, unless they have offered to the trustee reasonable indemnity or security.

DESCRIPTION OF UNITS

We may issue units consisting of any combination of the other types of securities offered under this prospectus in one or more series. We may evidence each series of units by unit certificates that we will issue under a separate agreement. We may enter into unit agreements with a unit agent. Each unit agent will be a bank or trust company that we select. We will indicate the name and address of the unit agent in the applicable prospectus supplement relating to a particular series of units.

The following description, together with the additional information included in any applicable prospectus supplement, summarizes the general features of the units that we may offer under this prospectus. You should read any prospectus supplement and any free writing prospectus that we may authorize to be provided to you related to the series of units being offered, as well as the complete unit agreements that contain the terms of the units. Specific unit agreements will contain additional important terms and provisions and we will file with the SEC the form of each unit agreement relating to units offered under this prospectus.

If we offer any units, certain terms of that series of units will be described in the applicable prospectus supplement, including, without limitation, the following, as applicable:

the title of the series of units;

identification and description of the separate constituent securities comprising the units;

the price or prices at which the units will be issued;

the date, if any, on and after which the constituent securities comprising the units will be separately transferable; a discussion of certain U.S. federal income tax considerations applicable to the units; and any other terms of the units and their constituent securities.

WHERE YOU CAN FIND MORE INFORMATION

We have filed a registration statement on Form S-3 with the SEC for the securities we are offering by this prospectus. This prospectus does not include all of the information contained in the registration statement. You should refer to the registration statement and its exhibits for additional information.

We are required to file annual and quarterly reports, current reports, proxy statements, and other information with the SEC. We make these documents publicly available, free of charge, on our website at www.csi360.com as soon as reasonably practicable after filing such documents with the SEC. You can read our SEC filings, including the registration statement, on the SEC's website at http://www.sec.gov.

INCORPORATION OF CERTAIN DOCUMENTS BY REFERENCE

The SEC allows us to "incorporate by reference" into this prospectus the information we file with it, which means that we can disclose important information to you by referring you to those documents. The information incorporated by reference is considered to be part of this prospectus, and information in documents that we file later with the SEC will automatically update and supersede information in this prospectus. We incorporate by reference into this prospectus the documents listed below and any future filings made by us with the SEC under Section 13(a), 13(c), 14 or 15(d) of

the Exchange Act until we close this offering, including all filings made after the date of the initial registration statement and prior to the effectiveness of the registration statement. We hereby incorporate by reference the following documents:

our Annual Report on Form 10-K for the year ended June 30, 2018;
our Quarterly Report on Form 10-Q for the quarter ended September 30, 2018;
our Current Reports on Form 8-K filed on July 16, 2018, July 31, 2018, August 17, 2018 and November 16, 2018;

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the description of our common stock contained in our registration statement on Form 8-A filed June 26, 2006, under the Securities Act, including any amendment or report filed for the purpose of updating such description; and our definitive Proxy Statement on Schedule 14A filed on October 2, 2018.

You may request a copy of these filings, at no cost, by writing or telephoning us at the following address:

Cardiovascular Systems, Inc. 1225 Old Highway 8 Northwest St. Paul, Minnesota 55112-6416 Attention: Investor Relations Phone: (651) 259-1600

Copies of these filings are also available, without charge, through the "Investors" section of our website (www.csi360.com) as soon as reasonably practicable after they are filed electronically with the SEC. The information contained on our website is not a part of this prospectus.

LEGAL MATTERS

The validity of the issuance of the securities offered hereby will be passed upon for us by Fredrikson & Byron, P.A., Minneapolis, Minnesota. The validity of any securities will be passed upon for any underwriters or agents by counsel that we will name in the applicable prospectus supplement.

EXPERTS

The financial statements and management's assessment of the effectiveness of internal control over financial reporting (which is included in Management's Report on Internal Control over Financial Reporting) incorporated in this prospectus by reference to the Annual Report on Form 10-K for the year ended June 30, 2018 have been so incorporated in reliance on the report of PricewaterhouseCoopers LLP, an independent registered public accounting firm, given on the authority of said firm as experts in auditing and accounting.

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PROSPECTUS

CARDIOVASCULAR SYSTEMS, INC.

\$350,000,000 Common Stock Preferred Stock Warrants Debt Securities Units

December 6, 2018

We have not authorized any dealer, salesperson or other person to give any information or represent anything not contained in this prospectus. You must not rely on any unauthorized information. If anyone provides you with different or inconsistent information, you should not rely on it. This prospectus does not offer to sell any shares in any jurisdiction where it is unlawful. Neither the delivery of this prospectus, nor any sale made hereunder, shall create any implication that the information in this prospectus is correct after the date hereof.

PART II

INFORMATION NOT REQUIRED IN PROSPECTUS

Item 14. Other Expenses of Issuance and Distribution.

The following table sets forth the various expenses in connection with the sale and distribution of the securities being registered. The registrant has agreed to pay these costs and expenses.

Securities and Exchange Commission registration fee	\$42,420
FINRA corporate filing fees	*
Printing and engraving expenses	*
Legal fees and expenses	*
Accounting fees and expenses	*
Transfer Agent and Registrar fees	*
Miscellaneous	*
Total	\$ *

* Estimated expenses not presently known.

Item 15. Indemnification of Directors and Officers.

Section 145 of the Delaware General Corporation Law provides that a corporation may indemnify any person who was or is a party or is threatened to be made a party to any threatened, pending or completed action, suit or proceeding, whether civil, criminal, administrative or investigative, other than an action by or in the right of the corporation, by reason of the fact that the person is or was a director, officer, employee or agent of the corporation or is or was serving at the corporation's request as a director, officer, employee or agent of another corporation, partnership, joint venture, trust or other enterprise, against expenses, including attorneys' fees, judgments, fines and amounts paid in settlement actually and reasonably incurred by the person in connection with the action, suit or proceeding if the person acted in good faith and in a manner the person reasonably believed to be in or not opposed to the best interests of the corporation, and, with respect to any criminal action or proceeding, had no reasonable cause to believe the person's conduct was unlawful. The power to indemnify applies to actions brought by or in the right of the corporation as well, but only to the extent of expenses, including attorneys' fees but excluding judgments, fines and amounts paid in settlement, actually and reasonably incurred by the person in connection with the defense or settlement of the action or suit if the person acted in good faith and in a manner the person reasonably believed to be in or not opposed to the best interests of the corporation and except that no indemnification shall be made in respect of any claim, issue or matter as to which such person shall have been adjudged to be liable to the corporation unless and only to the extent that a court of competent jurisdiction shall determine that such indemnity is proper.

Section 145(g) of the Delaware General Corporation Law provides that a corporation shall have the power to purchase and maintain insurance on behalf of its officers, directors, employees and agents, against any liability asserted against and incurred by such persons in any such capacity.

Section 102(b)(7) of the General Corporation Law of the State of Delaware provides that a corporation may eliminate or limit the personal liability of a director to the corporation or its stockholders for monetary damages for breach of fiduciary duty as a director, provided that such provision shall not eliminate or limit the liability of a director (i) for any breach of the director's duty of loyalty to the corporation or its stockholders, (ii) for acts or omissions not in good faith or which involve intentional misconduct or a knowing violation of law, (iii) under Section 174 of the General Corporation Law of the State of Delaware, or (iv) for any transaction from which the director derived an improper personal benefit. No such provision shall eliminate or limit the liability of a director for any act or omission occurring

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prior to the date when such provision becomes effective.

Our Amended and Restated Bylaws provide that we shall indemnify our directors and officers to the fullest extent permitted by the laws of the State of Delaware or any other applicable law. As permitted by our Amended and Restated Bylaws, we have additionally entered into indemnification agreements with each of our non-employee directors that provide for indemnification and expense advancement to the fullest extent permitted by the laws of the State of Delaware.

Our Amended and Restated Bylaws provide that we may purchase and maintain insurance policies on behalf of our directors and officers against specified liabilities for actions taken in their capacities as such, including liabilities under the Securities Act. We have

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obtained directors and officers' liability insurance to cover liabilities our directors and officers may incur in connection with their services to us.

Our Restated Certificate of Incorporation, as amended, provides that the liability of our directors for monetary damages shall be eliminated to the fullest extent under applicable law.

Item 16. Exhibits.

The following is a list of exhibits filed as part of this registration statement.

Exhibit Description

- 1.1 Form of Underwriting Agreement*
- 4.1 Restated Certificate of Incorporation, as amended (previously filed with the SEC as an Exhibit to and incorporated herein by reference from the Company's Quarterly Report on Form 10-Q filed May 14, 2009)
- 4.2 <u>Amended and Restated Bylaws (previously filed with the SEC as an Exhibit to and incorporated herein by</u> reference from the Company's Current Report on Form 8-K filed on May 21, 2015)
- 4.3 <u>Specimen Common Stock Certificate (previously filed with the SEC as an Exhibit to and incorporated herein by</u> reference from the Company's Current Report on Form 8-K filed on March 3, 2009)
- 4.4 Form of Preferred Stock Certificate*
- 4.5 Form of Common Stock Warrant Agreement and Warrant Certificate*
- 4.6 Form of Preferred Stock Warrant Agreement and Warrant Certificate*
- 4.7 Form of Debt Securities Warrant Agreement and Warrant Certificate*
- 4.8 Form of Unit Agreement*
- 4.9 <u>Form of Indenture (filed herewith)</u> Registration Rights Agreement by and among Cardiovascular Systems, Inc. and certain of its stockholders,
- 4.10 dated as of March 16, 2009 (previously filed with the SEC as an Exhibit to and incorporated herein by reference from the Company's Current Report on Form 8-K filed on March 18, 2009)
- 5.1 Opinion of Fredrikson & Byron, P.A. relating to the Securities (filed herewith)
- 23.1 Consent of Fredrikson & Byron, P.A. (included in Exhibit 5.1) (filed herewith)
- 23.2 Consent of PricewaterhouseCoopers LLP (filed herewith)
- 24.1 Power of Attorney (included on the signature page hereto)
- 25.1 Statement of Eligibility of Trustee Under Debt Indenture (to be filed separately pursuant to Section 305(b)(2) of the Trust Indenture Act of 1939)

To be filed if necessary, subsequent to the effectiveness of this registration statement by an amendment to this *registration statement or incorporated by reference pursuant to a Current Report on Form 8-K in connection with the offering of securities. Item 17. Undertakings.

- (a) The undersigned registrant hereby undertakes:
- (1) To file, during any period in which offers or sales are being made, a post-effective amendment to this registration statement:
- (i) To include any prospectus required by Section 10(a)(3) of the Securities Act of 1933;

To reflect in the prospectus any facts or events arising after the effective date of the registration statement (or the most recent post-effective amendment thereof) which, individually or in the aggregate, represent a fundamental change in the information set forth in the registration statement. Notwithstanding the foregoing, any increase or decrease in volume of securities offered (if the total dollar value of securities offered would not exceed that which

- (ii) was registered) and any deviation from the low or high end of the estimated maximum offering range may be reflected in the form of prospectus filed with the Commission pursuant to Rule 424(b) if, in the aggregate, the changes in volume and price represent no more than a 20 percent change in the maximum aggregate offering price set forth in the "Calculation of Registration Fee" table in the effective registration statement; and
- (iii) To include any material information with respect to the plan of distribution not previously disclosed in the registration statement or any material change to such information in the registration statement.

Provided, however, that the undertakings set forth in paragraphs (a)(1)(i), (a)(1)(ii) and (a)(1)(iii) of this section do not apply if the information required to be included in a post-effective amendment by those paragraphs is contained in reports filed with or furnished to the Commission by the registrant pursuant to Section 13 or Section 15(d) of the Securities Exchange Act of 1934 that are incorporated by reference in the registration statements or is contained in a form of prospectus filed pursuant to Rule 424(b) that is a part of the registration statement.

That, for the purpose of determining any liability under the Securities Act of 1933, each such post-effective(2) amendment shall be deemed to be a new registration statement relating to the securities offered therein, and the offering of such securities at that time shall be deemed to be the initial bona fide offering thereof.

- (3) To remove from registration by means of a post-effective amendment any of the securities being registered which remain unsold at the termination of the offering.
 - (5) That, for the purpose of determining liability under the Securities Act of 1933 to any purchaser:
- (A) Each prospectus filed by the registrant pursuant to Rule 424(b)(3) shall be deemed to be part of the registration statement as of the date the filed prospectus was deemed part of and included in the registration statement; and
- (B) Each prospectus required to be filed pursuant to Rule 424(b)(2), (b)(5), or (b)(7) as part of a registration statement in reliance on Rule 430B relating to an offering made pursuant to Rule 415(a)(1)(i), (vii), or (x) for the purpose of providing the information required by section 10(a) of the Securities Act of 1933 shall be deemed to be part of and included in the registration statement as of the earlier of the date such form of prospectus is first used after effectiveness or the date of the first contract of sale of securities in the offering described in the prospectus. As provided in Rule 430B, for liability purposes of the issuer and any person that is at that date an underwriter, such date shall be deemed to be a new effective date of the registration statement relating to the securities in the registration statement to which that prospectus relates, and the offering of such securities at that time shall be deemed to be the initial bona fide offering thereof. Provided, however, that no statement made in a registration statement or prospectus that is part of the registration statement or prospectus that is part of the registration statement or prospectus that is part of the registration statement or prospectus that is part of the registration statement or prospectus that is part of the registration statement or prospectus that is part of the registration statement or prospectus that is part of the registration statement or prospectus that is part of the registration statement or prospectus that is part of the registration statement or prospectus that is part of the registration statement or prospectus that is part of the registration statement or prospectus that is part of the registration statement or prospectus that is part of the registration statement or prospectus that is part of the registration statement or prospectus that is part of the registration statement or prospectus that is part of the registration statement or prospectus that is part of the registration statement or prospectus that

statement will, as to a purchaser with a time of contract of sale prior to such effective date, supersede or modify any statement that was made in the registration statement or prospectus that was part of the registration statement or made in any such document immediately prior to such effective date.

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That, for the purpose of determining liability of the registrant under the Securities Act of 1933 to any purchaser in the initial distribution of the securities, the undersigned registrant undertakes that in a primary offering of

- (6) securities of the undersigned registrant pursuant to this registration statement, regardless of the underwriting method used to sell the securities to the purchaser, if the securities are offered or sold to such purchaser by means of any of the following communications, the undersigned registrant will be a seller to the purchaser and will be considered to offer or sell such securities to such purchaser:
- (i) any preliminary prospectus or prospectus of the undersigned registrant relating to the offering required to be filed pursuant to Rule 424;
- (ii) any free writing prospectus relating to the offering prepared by or on behalf of the undersigned registrant or used or referred to by the undersigned registrant;
- (iii) the portion of any other free writing prospectus relating to the offering containing material information about the undersigned registrant or its securities provided by or on behalf of the undersigned registrant; and
- (iv) any other communication that is an offer in the offering made by the undersigned registrant to the purchaser.

The undersigned registrant hereby undertakes that, for purposes of determining any liability under the Securities Act of 1933, each filing of the registrant's annual report pursuant to Section 13(a) or 15(d) of the Securities
(b) Section 15(d) of the Securities Exchange Act of 1934) that is incorporated by reference in the registration

^(*) Section 15(d) of the Securities Exchange Act of 1934) that is incorporated by reference in the registration statement shall be deemed to be a new registration statement relating to the securities offered therein, and the offering of such securities at that time shall be deemed to be the initial bona fide offering thereof.

Insofar as indemnification for liabilities arising under the Securities Act of 1933 may be permitted to directors, officers and controlling persons of the registrant pursuant to the foregoing provisions or otherwise, the registrant has been advised that in the opinion of the Securities and Exchange Commission such indemnification is against public policy as expressed in the Securities Act of 1933 and is therefore unenforceable. In the event that a claim for indemnification against such liabilities (other than the payment by the registrant of expenses incurred or paid

(h) by a director, officer or controlling person of the registrant in the successful defense of any action, suit or proceeding) is asserted by such director, officer or controlling person in connection with the securities being registered, the registrant will, unless in the opinion of its counsel the matter has been settled by controlling precedent, submit to a court of appropriate jurisdiction the question whether such indemnification by it is against public policy as expressed in the Securities Act of 1933, and will be governed by the final adjudication of such issue.

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

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SIGNATURES

Pursuant to the requirements of the Securities Act of 1933, as amended, the registrant certifies that it has reasonable grounds to believe that it meets all of the requirements for filing on Form S-3 and has duly caused this registration statement on Form S-3 to be signed on its behalf by the undersigned, thereunto duly authorized, in the City of St. Paul, State of Minnesota, on the 6th day of December, 2018.

Dated: December 6, 2018 CARDIOVASCULAR SYSTEMS, INC.

By:/s/ Scott R. Ward Scott R. Ward Chairman, President and Chief Executive Officer

POWER OF ATTORNEY

Each person whose signature appears below constitutes and appoints Scott R. Ward and Jeffrey S. Points, and each of them singly, his or her true and lawful attorney-in-fact and agent with full power of substitution and resubstitution, for him or her and in his or her name, place, and stead, in any and all capacities, to sign any and all amendments and supplements (including post-effective amendments) to this Registration Statement on Form S-3, and any related Rule 462(b) registration statement or amendment thereto, to be filed by Cardiovascular Systems, Inc., and to file the same, with all exhibits thereto, and other documents in connection therewith, with the Securities and Exchange Commission, granting unto said attorneys-in-fact and agents full power and authority to be done in and about the premises, as fully to all intents and purposes as he or she might or could do in person, hereby ratifying and confirming all that said attorneys-in-fact and agents, or their substitutes, may lawfully do or cause to be done by virtue hereof.

Pursuant to the requirements of the Securities Act of 1933, as amended, this Registration Statement has been signed by the following persons in the capacities indicated on December 6, 2018:

Signature	Title
/s/ Scott. R. Ward Scott R. Ward	Chairman, President and Chief Executive Officer (principal executive officer)
/s/ Jeffrey S. Points Jeffrey S. Points	Chief Financial Officer (principal financial and accounting officer)
/s/ Martha Goldberg Aronson Martha Goldberg Aronson	Director
/s/ Scott Bartos Scott Bartos	Director
/s/ Brent G. Blackey Brent G. Blackey	Director
/s/ Edward Brown Edward Brown	Director
/s/ William E. Cohn William E. Cohn	Director

/s/ Augustine Lawlor Augustine Lawlor

Director

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