

PROSPECTUS SUPPLEMENT
(To prospectus dated May 5, 2014)**2,900 shares of Series C Convertible Preferred Stock****See “Risk Factors” beginning on page S-4 of this prospectus supplement for information you should consider before buying our securities.**

Pursuant to this prospectus supplement and the accompanying base prospectus, we are offering 2,900 shares of our Series C Convertible Preferred Stock, which we refer to as Series C Preferred Stock. Each share of Series C Preferred Stock has a stated value of \$1,000 and is convertible into shares of our common stock at an initial conversion price of \$0.17 (subject to adjustment pursuant to the certificate of designation).

In a concurrent private placement, we are also selling to investors 900 shares of our Series D Convertible Preferred Stock, which we refer to as Series D Preferred Stock and, together with the Series C Preferred Stock, as the Preferred Stock, and warrants to purchase 22,352,941 shares of our common stock, or the Warrants. Each share of Series D Preferred Stock has a stated value of \$1,000 and is convertible into shares of our common stock at an initial conversion price of \$0.17 (subject to adjustment pursuant to the certificate of designation). The Warrants will be exercisable at an initial exercise price of \$0.18 per share (subject to adjustment as set forth in the Warrants) for five years commencing on the date that is the later of (1) the receipt of shareholder approval for this offering or (2) the six month anniversary of the date of issuance, or the Initial Exercise Date. None of the Series D Preferred Stock, the Warrants, the Placement Agent Warrants (as defined below) or the shares of our common stock issuable upon the conversion or exercise of such securities are being registered under the Securities Act of 1933, as amended, or the Securities Act, pursuant to the registration statement of which this prospectus supplement and the accompanying base prospectus form a part and are not being offered pursuant to this prospectus supplement and the accompanying base prospectus. The Series D Preferred Stock, the Warrants and the Placement Agent Warrant are being issued pursuant to an exemption from the registration requirement of the Securities Act provided in Section 4(a)(2) of the Securities Act and/or Regulation D.

Shares of our common stock trade on The NASDAQ Capital Market under the symbol “SSH.” The last reported sale price on October 28, 2016 was \$0.25 per share.

We have retained Northland Securities, Inc., or the Placement Agent, as our exclusive placement agent to use its reasonable best efforts to solicit offers to purchase our securities in this offering. We have agreed to pay the Placement Agent a cash fee of 6.0% of the aggregate gross proceeds in this offering and the concurrent private placement as well as issue the Placement Agent or its designees warrants, or the Placement Agent Warrants, to purchase shares of our common stock equal to 6.0% of the shares of common stock issuable upon conversion of the Preferred Stock. The Placement Agent Warrants will be exercisable at an initial exercise price of \$0.2125 per share on the Initial Exercise Date and for five years thereafter and will otherwise contain the same terms as the Warrants, except that it will not contain any price-based dilution adjustments.

You should carefully read this prospectus supplement and the accompanying base prospectus before you invest in our securities.

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	<u>Per Share</u>	<u>Total (1)</u>
Public offering price	\$ 1,000	\$ 2,900,000
Placement agent’s fees (2)	\$ 60	\$ 174,000
Proceeds, before expenses, to Sunshine Heart, Inc.	\$ 940	\$ 2,726,000

(1) Only includes proceeds from, and Placement Agent fees related to, the issuance and sale of the Series C Preferred Stock registered under the Securities Act pursuant to the registration statement of which this prospectus supplement and the accompanying base prospectus form a part. Does not include proceeds or fees related to the concurrent private placement. See “Private Placement Transaction, Series D Preferred Stock and Warrants.”

(2) We have agreed to pay the Placement Agent an aggregate cash placement fee equal to 6.0% of the gross proceeds as well as issue the Placement Agent Warrants to purchase shares of our common stock equal to 6.0% of the shares of common stock underlying the Preferred Stock sold to investors in this offering and in the concurrent private placement. In addition, we have agreed to pay certain expenses and advances of the Placement Agent and the investors in this offering, as discussed under “Plan of Distribution”.

The Placement Agent is not purchasing any securities pursuant to this prospectus supplement or the accompanying base prospectus. We expect that delivery of the securities being offered pursuant to this prospectus supplement will be made to purchasers on or about November 3, 2016.

The aggregate market value of our common stock held by non-affiliates pursuant to General Instruction I.B.6 of Form S-3 is \$18,316,180, which was calculated based on 20,579,977 shares of our common stock outstanding held by non-affiliates as of October 30, 2016 and a price of \$0.89 per share, the closing price of our common stock on August 31, 2016. As a result, we are currently eligible to offer and sell up to an aggregate of 2,900,000 of shares of

our Series C Preferred Stock pursuant to General Instruction I.B.6 of Form S-3. We have previously sold \$3,468,000 in Series B Convertible Preferred Stock pursuant to General Instruction I.B.6 of Form S-3 during the prior 12 calendar month period that ends on, and includes, the date of this prospectus supplement.

Neither the Securities and Exchange Commission nor any state securities commission has approved or disapproved these securities or determined if this prospectus is truthful or complete. Any representation to the contrary is a criminal offense.

Northland Securities, Inc.

This prospectus supplement is dated October 30, 2016.

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ABOUT THIS PROSPECTUS SUPPLEMENT

This document is in two parts. The first part is the prospectus supplement, which describes the specific terms of Preferred Stock being offered by us, and also adds to and updates information contained in the accompanying base prospectus and the documents incorporated by reference. The second part, the accompanying base prospectus, including the documents incorporated by reference therein, provides more general information, some of which may not apply to this offering of Preferred Stock. Generally, when we refer to this prospectus, we are referring to both parts of this document combined. To the extent there is a conflict between the information contained in this prospectus supplement, on the one hand, and the information contained in the accompanying base prospectus or in any document incorporated by reference that was filed with the Securities and Exchange Commission, or SEC, before the date of this prospectus supplement, on the other hand, you should rely on the information in this prospectus supplement. If any statement in one of these documents is inconsistent with a statement in another document having a later date — for example, a document incorporated by reference in the accompanying base prospectus — the statement in the document having the later date modifies or supersedes the earlier statement.

We further note that the representations, warranties and covenants made by us in any agreement that is filed as an exhibit to any document that is incorporated by reference herein were made solely for the benefit of the parties to such agreement, including, in some cases, for the purpose of allocating risk among the parties to such agreements, and should not be deemed to be a representation, warranty or covenant to you. Moreover, such representations, warranties or covenants were accurate only as of the date when made. Accordingly, such representations, warranties and covenants should not be relied on as accurately representing the current state of our affairs.

You should rely only on the information contained in or incorporated by reference in this prospectus supplement or the accompanying base prospectus, and any free writing prospectus filed by us with the SEC. We have not, and the Placement Agent has not, authorized anyone to provide you with different information. If anyone provides you with different or inconsistent information, you should not rely on it. We are not, and the Placement Agent is not, making an offer to sell these securities in any jurisdiction where the offer or sale is not permitted or in which the person making that offer or solicitation is not qualified to do so or to anyone to whom it is unlawful to make an offer or solicitation. The information contained in this prospectus supplement or the accompanying base prospectus, or incorporated by reference herein is accurate only as of the respective dates thereof, regardless of the time of delivery of this prospectus supplement and the accompanying base prospectus or of any sale of our securities. It is important for you to read and consider all information contained in this prospectus supplement and the accompanying base prospectus, including the documents incorporated by reference herein and therein, in making your investment decision. You should also read and consider the information in the documents to which we have referred you in the section entitled “Where You Can Find More Information.”

In this prospectus supplement, “we,” “us,” “our,” and “the company,” refer to Sunshine Heart, Inc. and its subsidiaries, unless the context otherwise requires.

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THE OFFERING

Series C Preferred Stock	2,900 shares of Series C Preferred Stock
Conversion	Each share of Series C Preferred Stock has a stated value of \$1,000 and, subject to shareholder approval of the issuance of the underlying common stock pursuant to the requirements of Nasdaq Listing Rule 5635(d) (the “Shareholder Approval”), is convertible into shares of our common stock at an initial conversion price of \$0.17 (subject to adjustment upon the occurrence of certain events), at any time at the option of the holder, provided that the holder will be prohibited from converting Series C Preferred Stock into shares of our common stock if, as a result of such conversion, the holder, together with its affiliates, would own more than 4.99% of the total number of shares of our common stock then issued and outstanding, which limit may be increased to 9.99% at the option of the holder.
Liquidation Preference	Upon liquidation, dissolution or winding-up of the Company, each holder of Series C Preferred Stock will be entitled to receive out of the assets, whether capital or surplus, of the Company an amount equal to the par value, plus any accrued and unpaid dividends thereon, for each share of Preferred Stock before any distribution or payment shall be made to the holders of our common stock and, following such payment, the same amount that a holder of common stock would receive if the Series C Preferred Stock were fully converted, <i>pari passu</i> with all holders of common stock.
Voting rights	Shares of Series C Preferred Stock will generally have no voting rights, except as required by law and except that the consent of the holders of the outstanding Series C Preferred Stock will be required to alter or change adversely the powers, preferences or rights given to the Series C Preferred Stock, alter or amend the certificate of designation, amend the certificate of incorporation or other charter documents in any manner that adversely affects any rights of the holders of Series C Preferred Stock, increase the number of authorized shares of Series C Preferred Stock, or enter into any agreement with respect to any of the foregoing.
Dividends	The Preferred Stock is entitled to receive dividends if any are declared on an “as converted to common stock” basis to and in the same form as dividends actually paid on shares of our common stock.
Use of proceeds	We intend to use the net proceeds of this offering and private placement for working capital needs for our recently-acquired Aquadex product line and for general corporate purposes.
Initial Closing	2,900 shares of the Series C Preferred Stock shall be issuable upon the initial closing, expected to take place on or about November 3, 2016 (the “initial closing”).
NASDAQ Capital Market Symbol	“SSH”
Concurrent Private Placement	In a concurrent private placement, we are selling to the purchasers in this offering 900 shares of Series D Preferred Stock and Warrants to purchase

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up to 22,352,941 shares of our common stock in the aggregate (subject to adjustment). 700 shares of the Series D Preferred Stock and Warrants to purchase 21,176,471 shares of our common stock shall be issued in the initial closing. 200 shares of the Series D Preferred Stock and Warrants to purchase 1,176,471 shares of our common stock shall be issuable promptly after receipt of Shareholder Approval, but in no event later than 3 trading days following such receipt, upon the second closing (the “second closing”). The Warrants will be exercisable at an initial exercise price of \$0.18 per share (subject to adjustment as set forth in the Warrants) for five years commencing on the Initial Exercise Date and may not be exercised absent Shareholder Approval. The Series D Preferred Stock, Warrants and the shares of our common stock issuable upon the conversion of Series D Preferred Stock and exercise of the Warrants are not being registered under the Securities Act pursuant to the registration statement of which this prospectus supplement and the

accompanying base prospectus form a part and are not being offered pursuant to this prospectus supplement and the accompanying base prospectus. The Series D Preferred Stock and the Warrants are being offered pursuant to an exemption from the registration requirements of the Securities Act provided in Section 4(a)(2) of the Securities Act and/or Regulation D. See “Private Placement Transaction, Series D Preferred Stock and Warrants.”

Risk Factors See “Risk Factors” beginning on page S-4 of this prospectus supplement that you should consider before making a decision to invest in our securities.

Except as otherwise indicated, all information in this prospectus supplement is based on 20,895,278 shares of common stock outstanding as of October 28, 2016 and excludes the shares of common stock issuable upon conversion of (i) our Series B Convertible Preferred Stock, Series B-1 Convertible Preferred Stock, Series C Preferred Stock, or Series D Preferred Stock, and (ii) exercise of the Warrants or Placement Agent Warrants and also excludes the following:

- 2,919,245 shares of common stock issuable upon the exercise of outstanding stock options, having a weighted average exercise price of \$3.84 per share and 400,779 shares of common stock issuable upon the vesting of restricted stock units; and
- 4,131,503 shares of our common stock issuable upon the exercise of outstanding warrants with a weighted-average exercise price of \$1.23 per share.

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RISK FACTORS

Before you invest in our securities, you should become aware of various risks, including those described below, beginning on page 9 of the accompanying base prospectus, in our Annual Report on Form 10-K for the year ended December 31, 2015, in our Quarterly Reports on Form 10-Q for the quarters ended March 31, 2016 and June 30, 2016 and in other documents that we subsequently file with the SEC that update, supplement or supersede such information, which documents are incorporated by reference into this prospectus. See “Where You Can Find More Information.” Additional risks not currently known to us or which we consider immaterial based on information currently available to us may also materially adversely affect us. If any of the events anticipated by the risks described occur, our business, results of operations and financial condition could be adversely affected, which could result in a decline in the market price of our common stock, causing you to lose all or part of your investment.

Risks Related To Our Series C Preferred Stock, Common Stock and This Offering

Holders of Series C Preferred Stock will have no rights as common shareholders until such holders convert their shares and acquire our common stock.

Until you acquire shares of our common stock upon conversion, you will have no rights with respect to our common stock, including voting rights (except as described under “Description of Series C Convertible Preferred Stock” and “Private Placement Transaction, Series D Preferred Stock and Warrants”). Upon conversion, you will be entitled to exercise the rights of a holder of common stock only as to matters for which the record date occurs after the conversion date.

Conversion of the Series C Preferred Stock is contingent upon Shareholder Approval.

Pursuant to the requirements of Nasdaq Listing Rule 5635(d), none of the shares of Series C Preferred Stock may be converted until our shareholders approve the issuance of the common stock underlying the Series C Preferred Stock. Furthermore, the second closing is contingent on the receipt of Shareholder Approval. We have agreed to file a proxy statement with the Commission for the purposes of holding a special meeting of our shareholders to vote on a proposal to approve such issuance, and further agreed to hold such shareholders’ meeting within 120 days of the initial closing. However, our shareholders may reject such proposal. If that occurs, we are required to call a meeting every four months thereafter to seek Shareholder Approval until the earlier of the date Shareholder Approval is obtained or the Preferred Stock is no longer outstanding. If our shareholders do not approve such proposal, your Series C Preferred Stock may have no conversion rights, and the second closing shall not occur. In such event, the value of the Series C Preferred Stock may be significantly diminished.

Nasdaq may delist our common stock from its exchange which could limit your ability to make transactions in our securities and subject us to additional trading restrictions.

On September 21, 2016, we received notice from the Listing Qualifications Staff (the “Staff”) of The NASDAQ Stock Market LLC (“Nasdaq”) indicating that the Staff had determined to delist our securities from The Nasdaq Capital Market due to our then continued non-compliance with the minimum bid price requirement. We timely requested a hearing before the Nasdaq Hearings Panel (the “Panel”) which is currently expected to take place in November of 2016.

At the hearing, the Company will present its plan to evidence compliance with all applicable criteria for continued listing on The Nasdaq Capital Market, including the Company’s plan to effect a reverse stock split for purposes of complying with the minimum bid price requirements, and request an extension within which to do so. There can be no assurance that the Panel will determine to continue the Company’s listing or that the Company will be able to evidence compliance with the applicable listing criteria within the period of time that may be granted by the Panel.

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In order to continue listing our securities on Nasdaq, we must maintain certain financial, distribution and stock price levels, including a minimum amount in shareholders’ equity (generally \$2,500,000). We cannot assure you that we will be able to meet these listing requirements.

If Nasdaq delists our common stock from trading on its exchange, we could face significant material adverse consequences, including:

- a limited availability of market quotations for our securities;
- reduced liquidity with respect to our securities;
- a determination that our shares are a “penny stock,” which will require brokers trading in our securities to adhere to more stringent rules, possibly resulting in a reduced level of trading activity in the secondary trading market for our securities;
- a limited amount of news and analyst coverage for our Company; and
- a decreased ability to issue additional securities or obtain additional financing in the future.

The number of shares of common stock underlying the Series C Preferred Stock sold or to be sold in this offering, underlying the Series D Preferred Stock sold or to be sold in the private placement, issuable upon exercise of the Warrants issued or to be issued in the concurrent private placement and the Placement Agent Warrants and upon exercise of our outstanding warrants is significant in relation to our currently outstanding common stock and could cause downward pressure on the market price for our common stock.

The number of shares of common stock issuable upon conversion of the Series C Preferred Stock, issuable upon conversion or exercise of the privately placed Series D Preferred Stock, Warrants and the Placement Agent Warrants and our outstanding warrants, is significant in relation to the number of shares of our common stock currently outstanding. If any security holder, including purchasers in this offering, determines to sell a substantial number of shares into the market at any given time, there may not be sufficient demand in the market to purchase the shares without a decline in the market price for our common stock. Moreover, continuous sales into the market of a number of shares in excess of the typical trading volume for our common stock, or even the availability of such a large number of shares, could depress the trading market for our common stock over an extended period of time.

The Series C Preferred Stock is equity and is subordinate to our existing and future indebtedness.

Shares of Series C Preferred Stock are equity interests and do not constitute indebtedness. As such, shares of Preferred Stock will rank junior to all indebtedness and other non-equity claims with respect to assets available to satisfy claims against us, including a liquidation of us.

The price of our common stock, and therefore of the Series C Preferred Stock, may fluctuate significantly, and this may make it difficult for you to resell the Series C Preferred Stock or common stock issuable upon conversion of the Series C Preferred Stock when you want or at prices you find attractive.

The price of our common stock constantly changes. The price of our common stock could fluctuate significantly for many reasons, including the following:

- future announcements concerning us, including our clinical and product development strategy, or our competitors;
- regulatory developments, disclosure regarding completed, ongoing or future clinical studies and enforcement actions bearing on advertising, marketing or sales;
- reports and recommendations of analysts and whether or not we meet the milestones and metrics set forth in such reports;
- introduction of new products;
- acquisition or loss of significant manufacturers, distributors or suppliers or an inability to obtain sufficient quantities of materials needed to manufacture our system;
- quarterly variations in operating results, which we have experienced in the past and expect to experience in the future;
- business acquisitions or divestitures;

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- changes in governmental or third-party reimbursement practices;
- fluctuations of investor interest in the medical device sector; and
- fluctuations in the economy, world political events or general market conditions.

In addition, stock markets in general, and the market for shares of health care stocks in particular, have experienced extreme price and volume fluctuations in recent years, fluctuations that frequently have been unrelated to the operating performance of the affected companies. These broad market fluctuations may adversely affect the market price of our common stock. The market price of our common stock could decline below its current price and the market price of our shares may fluctuate significantly in the future. These fluctuations may be unrelated to our performance. We expect that the market price of our common stock will continue to fluctuate. In addition, because the Series C Preferred Stock is convertible into our common stock, volatility or depressed prices for our common stock could have a similar effect on the trading price of the Series C Preferred Stock.

There is no public market for the Series C Preferred Stock being offered in this offering.

The Series C Preferred Stock has no established trading market, and we do not intend to seek the listing of the Series C Preferred Stock on any exchange. There is no assurance that an active market for the Series C Preferred Stock may develop or be sustained in the future. We cannot make assurances to you regarding the liquidity of, or trading markets for, the Series C Preferred Stock. Furthermore, our common stock has been listed for trading on the NASDAQ Capital Market only since February 16, 2012 and has experienced limited trading volume. There can be no assurance that an active public market for our shares will continue to develop. If an active trading market does not continue to develop, the market price and liquidity of our common stock would be adversely affected.

We may allocate net proceeds from this offering in ways which differ from our estimates based on our current plans and assumptions discussed in the section entitled “Use of Proceeds” and with which you may not agree.

The allocation of net proceeds of the offering set forth in “Use of Proceeds” below represents our estimates based upon our current plans and assumptions regarding industry and general economic conditions, our future revenues and expenditures. The amounts and timing of our actual expenditures will depend on numerous factors, including market conditions, cash generated by our operations, business developments and related rate of growth. We may find it necessary or advisable to use portions of the proceeds from this offering for other purposes. Circumstances that may give rise to a change in the use of proceeds and the alternate purposes for which the proceeds may be used are discussed in the section entitled “Use of Proceeds” below. You may not have an opportunity to evaluate the economic, financial or other information on which we base our decisions on how to use our proceeds. As a result, you and other shareholders may not agree with our decisions. See “Use of Proceeds” for additional information.

Our ability to use U.S. net operating loss carryforwards or Australian tax losses might be limited.

As of December 31, 2015, we had U.S. net operating loss (“NOL”) carryforwards of approximately \$94.0 million for U.S. income tax purposes, which expire from 2024 through 2034. To the extent these NOL carryforwards are available, we intend to use them to reduce any corporate income tax liability associated with our operations that we might have in the future. Section 382 of the U.S. Internal Revenue Code of 1986, as amended, generally imposes an annual limitation on the amount of NOL carryforwards that might be used to offset taxable income when a corporation has undergone significant changes in stock ownership. As a result, prior or future changes in ownership, including due to this offering, could put limitations on the availability of our NOL carryforwards. In addition, our ability to utilize the current NOL carryforwards might be further limited by future issuances of our common stock.

As of December 31, 2015, we had tax losses in the Commonwealth of Australia of approximately AU\$49.1 million. Continuing utilization of carryforward tax losses in Australia may also be affected by the issuance of our common stock in this offering and in the future. This is because one test for carrying forward tax losses in Australia from year to year requires continuity of ultimate ownership (subject to the relevant tests in Australian tax law) of more than 50% between the loss year and the income year in which the loss is claimed.

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To the extent use of our NOL carryforwards or tax losses is limited, our income could be subject to corporate income tax earlier than it would if we were able to use NOL carryforwards and tax losses, which could result in lower profits.

We do not intend to pay cash dividends on our common stock or the Series C Preferred Stock in the foreseeable future.

We have never declared or paid any cash dividends on our common stock, and we currently do not anticipate paying any cash dividends in the foreseeable future. We intend to retain any earnings to finance the development and expansion of our products and business. Accordingly, our shareholders will not realize a return on their investments unless the trading price of our common stock appreciates.

We will continue to incur increased costs as a result of being a U.S. reporting company.

In connection with the effectiveness of our registration statement on Form 10, as of February 14, 2012, we became subject to the periodic reporting requirements of the Exchange Act. Although we were previously listed on the Australian Securities Exchange and had been required to file financial information and make certain other filings with the Australian Securities Exchange, our status as a U.S. reporting company under the Exchange Act has caused us, and will continue to cause us, to incur additional legal, accounting and other expenses that we did not previously incur, including costs related to compliance with the requirements of SOX and the listing requirements of the NASDAQ Capital Market. We expect these rules and regulations will continue to increase our legal and financial compliance costs and make some activities more time-consuming and costly, and these activities may increase general and administrative expenses and divert management’s time and attention away from revenue-generating activities. We also expect these rules and regulations may make it more difficult and more expensive for us to obtain director and officer liability insurance and we may be required to accept reduced policy limits and coverage or incur substantially higher costs to obtain the same or similar coverage. As a result, it may be more difficult for us to attract and retain qualified individuals to serve on our board of directors or as executive officers.

Investors could lose confidence in our financial reports, and the value of our common stock may be adversely affected, if our internal controls over financial reporting are found not to be effective by management or by an independent registered public accounting firm or if we make disclosure of existing or potential material weaknesses in those controls.

In connection with becoming a company required to file reports with the SEC, we are required to comply with the internal control evaluation and certification requirements of Section 404 of SOX. Our independent registered public accounting firm will not be required to formally attest to the effectiveness of our internal control over financial reporting pursuant to Section 404 of SOX until the date we are no longer an “emerging growth company” as defined in the JOBS Act or a “smaller reporting company” as defined by applicable SEC rules.

We continue to evaluate our existing internal controls over financial reporting against the standards adopted by the Public Company Accounting Oversight Board. During the course of our ongoing evaluation of the internal controls, we may identify areas requiring improvement, and may have to design enhanced processes and controls to address issues identified through this review. Remediating any deficiencies, significant deficiencies or material weaknesses that we or our independent registered public accounting firm may identify may require us to incur significant costs and expend significant time and management resources. We cannot assure you that any of the measures we implement to remedy any such deficiencies will effectively mitigate or remedy such deficiencies. The existence of one or more material weaknesses could affect the accuracy and timing of our financial reporting. Investors could lose confidence in our financial reports, and the value of our common stock may be harmed, if our internal controls over financial reporting are found not to be effective by management or by an independent registered public accounting firm or if we make disclosure of existing or potential material weaknesses in those controls.

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Our certificate of incorporation designates the Court of Chancery of the State of Delaware as the sole and exclusive forum for certain litigation that may be initiated by our shareholders, which could limit our shareholders’ ability to obtain a favorable judicial forum for disputes with the Company.

Our certificate of incorporation provides that, unless we consent in writing to the selection of an alternative forum, the Court of Chancery of the State of Delaware will be the sole and exclusive forum for (i) any derivative action or proceeding brought on our behalf, (ii) any action asserting a claim of breach of a fiduciary duty owed by any of our directors, officers or other employees to us or our shareholders, (iii) any action asserting a claim arising pursuant to any provision of the Delaware General Corporation Law, as amended (the “DGCL”), or (iv) any other action asserting a claim governed by the internal affairs doctrine. Any person or entity purchasing or otherwise acquiring any interest in shares of our capital stock shall be deemed to have notice of and to have

consented to the provisions described above. This forum selection provision may limit our shareholders' ability to obtain a judicial forum that they find favorable for disputes with us or our directors, officers or other employees.

Our certificate of incorporation and bylaws, as well as certain provisions of the DGCL, may delay or deter a change in control transaction.

Certain provisions of our certificate of incorporation and bylaws may have the effect of deterring takeovers, such as those provisions authorizing our board of directors to issue, from time to time, any series of preferred stock and fix the designation, powers, preferences and rights of the shares of such series of preferred stock; prohibiting shareholders from acting by written consent in lieu of a meeting; requiring advance notice of shareholder intention to put forth director nominees or bring up other business at a shareholders' meeting; prohibiting shareholders from calling a special meeting of shareholders; requiring a 66 2/3% majority shareholder approval in order for shareholders to amend certain provisions of our certificate of incorporation or bylaws or adopt new bylaws; providing that, subject to the rights of preferred shares, the directors will be divided into three classes and the number of directors is to be fixed exclusively by our board of directors; and providing that none of our directors may be removed without cause. Section 203 of the DGCL, from which we did not elect to opt out, provides that if a holder acquires 15% or more of our stock without prior approval of our board of directors, that holder will be subject to certain restrictions on its ability to acquire us within three years. These provisions may delay or deter a change in control of us, and could limit the price that investors might be willing to pay in the future for shares of our common stock.

We are an "emerging growth company" under federal securities laws and we cannot be certain if the reduced reporting requirements applicable to emerging growth companies will make our common stock less attractive to investors.

We are an "emerging growth company," as defined in the JOBS Act. For as long as we continue to be an emerging growth company, we may take advantage of exemptions from various reporting requirements that are applicable to other public companies that are not emerging growth companies, including not being required to comply with the external auditor attestation requirements of Section 404 of SOX, reduced disclosure obligations regarding executive compensation in our periodic reports and proxy statements and exemptions from the requirements of holding a non-binding advisory vote on executive compensation and shareholder approval of any golden parachute payments not previously approved. The JOBS Act also permits emerging growth companies to take advantage of an extended transition period to comply with new or revised accounting standards applicable to U.S. public companies. We could be an emerging growth company for up to five years, although we could lose that status sooner if our revenues exceed \$1 billion, if we issue more than \$1 billion in non-convertible debt in a three-year period, or if the market value of our common stock held by non-affiliates exceeds \$700 million as of any June 30 before that time, in which case we would no longer be an emerging growth company as of the following December 31. We cannot predict if investors will find our common stock less attractive because we may rely on these exemptions. If some investors find our common stock less attractive as a result, there may be a less active trading market for our common stock and our stock price may decline or be more volatile.

As explained above, Section 102(b)(1) of the JOBS Act also provides that an emerging growth company can take advantage of the extended transition period provided in Section 7(a)(2)(B) of the Securities Act, for complying with new or revised accounting standards. An emerging growth company can delay the adoption of new or revised accounting standards that have different effective dates for public and private companies until those standards would otherwise apply to private companies. We have elected to take advantage of the benefits of this extended transition period, and as a result of this election, our financial statements may not be comparable to those of companies that comply with public company effective dates for new or revised accounting standards for U.S. public companies.

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We have a large number of authorized but unissued shares of stock, which could negatively impact a potential investor if they purchased our common stock.

As of the date of this prospectus supplement, our certificate of incorporation provides for 100,000,000 shares of authorized common stock, of which 79,104,722 shares are available for future issuance, and 40,000,000 shares of authorized preferred stock. As of the date of this prospectus supplement, the Company has designated (i) 30,000 shares as Series A Junior Participating Preferred Stock, which were designated pursuant to our shareholder rights plan, which has since expired and (ii) 3,468 shares as Series B Convertible Preferred Stock. Simultaneously with this offering, our board of directors is expected to designate 2,227.2 shares as Series B-1 Convertible Preferred Stock to be issued in exchange for the cancellation of our Series B Convertible Preferred Stock. In connection with this offering and the concurrent private placement, our board of directors is expected to designate 2,900 shares as Series C Preferred Stock and 900 shares as Series D Preferred Stock. Following this offering and the concurrent private placement, our board of directors has authority, without further shareholder approval, to issue up to 39,960,504 additional shares of preferred stock with such rights, preferences and privileges as our board may determine. These rights, preferences and privileges may include dividend rights, conversion rights, voting rights and liquidation rights that may be greater than the rights of our common stock. As a result, the rights of holders of our capital stock will be subject to, and could be adversely affected by, the rights of holders of any stock that may be issued in the future.

The issuance of additional shares of common stock or securities convertible into common stock may have a dilutive effect on earnings per share and relative voting power and may cause a decline in the trading price of our common stock. We could use the shares that are available for future issuance in dilutive equity financing transactions, or to oppose a hostile takeover attempt or delay or prevent changes in control or changes in or removal of management, including transactions that are favored by a majority of the shareholders or in which the shareholders might otherwise receive a premium for their shares over then-current market prices or benefit in some other manner.

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FORWARD LOOKING STATEMENTS

This prospectus supplement and the accompanying base prospectus, including the documents that we incorporate by reference, contains forward-looking statements within the meaning of Section 27A of the Securities Act of 1933, as amended, or the Securities Act, and Section 21E of the Securities Exchange Act of 1934, as amended, or the Exchange Act. Any statements about our expectations, beliefs, plans, objectives, assumptions or future events or performance are not historical facts and may be forward-looking. These statements are often, but are not always, made through the use of words or phrases such as "anticipates," "estimates," "plans," "projects," "continuing," "ongoing," "expects," "management believes," "we believe," "we intend" and similar

words or phrases. Accordingly, these statements involve estimates, assumptions and uncertainties which could cause actual results to differ materially from those expressed in them. Any forward-looking statements are qualified in their entirety by reference to the factors discussed throughout this prospectus supplement and accompanying base prospectus, and in particular those factors listed under the sections entitled “Risk Factors.”

Because the factors referred to in the preceding paragraph could cause actual results or outcomes to differ materially from those expressed in any forward-looking statements we make, you should not place undue reliance on any such forward-looking statements. Further, any forward-looking statement speaks only as of the date on which it is made, and we undertake no obligation to update any forward-looking statement or statements to reflect events or circumstances after the date on which such statement is made or to reflect the occurrence of unanticipated events. New factors emerge from time to time, and it is not possible for us to predict which factors will arise. In addition, we cannot assess the impact of each factor on our business or the extent to which any factor, or combination of factors, may cause actual results to differ materially from those contained in any forward-looking statements.

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USE OF PROCEEDS

We estimate that the net proceeds to us from the sale of the securities offered by this prospectus supplement and the accompanying base prospectus in this offering will be approximately \$2.6 million after deducting the Placement Agent’s fees and estimated offering expenses. This does not include the net proceeds we expect to receive, after deducting the Placement Agent’s fees and estimated offering expenses, of approximately \$0.6 million at the initial closing and approximately \$0.2 million at the second closing (subject to Shareholder Approval) from the sale of securities in the concurrent private placement after deducting the Placement Agent’s fees and estimated offering expenses. There can be no assurance we will sell any or all of the securities offered hereby.

We intend to use the net proceeds from this offering for working capital needs for our recently-acquired Aquadex product line and for general corporate purposes. We purchased the assets of Aquadex™ FlexFlow product on August 5, 2016. The Aquadex FlexFlow product is a medical device that can be used to treat heart failure patients as well as other patients with fluid overload who have failed diuretic therapy.

The allocation of the net proceeds of the offering set forth above represents our estimates based upon our current plans and assumptions regarding industry and general economic conditions, our future revenues and expenditures.

The amounts and timing of our actual expenditures will depend upon numerous factors, including market conditions, cash generated by our operations, business developments and related rate of growth. We may find it necessary or advisable to use portions of the proceeds from this offering for other purposes.

Circumstances that may give rise to a change in the use of proceeds and the alternate purposes for which the proceeds may be used include:

- the existence of other opportunities or the need to take advantage of changes in timing of our existing activities;
- the need or desire on our part to accelerate, increase or eliminate existing initiatives due to, among other things, changing market conditions and competitive developments; and/or
- if strategic opportunities present themselves (including acquisitions, joint ventures, licensing and other similar transactions).

From time to time, we evaluate these and other factors and we anticipate continuing to make such evaluations to determine if the existing allocation of resources, including the proceeds of this offering, is being optimized.

Pending such uses, we intend to invest the net proceeds of this offering in direct and guaranteed obligations of the United States, interest-bearing, investment-grade instruments or certificates of deposit.

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DESCRIPTION OF SERIES C CONVERTIBLE PREFERRED STOCK

The following description is a summary of the material terms of the Series C Preferred Stock, as set forth in the Certificate of Designation of Preferences, Rights and Limitations of Series C Convertible Preferred Stock (the “Certificate of Designation”). We urge you to read the Certificate of Designation because it, and not this description, defines your rights as holders of the Series C Preferred Stock. This summary is subject in all respects to the provisions of, and is qualified in its entirety by reference to, the Certificate of Designation. Copies of the Certificate of Designation are available as set forth under “Where You Can Find More Information.”

Whenever particular provisions of defined terms in the Certificate of Designation are referred to, such provisions or defined terms are incorporated by reference herein.

General. As of the date of this prospectus supplement, we have designated 30,000 shares as Series A Junior Participating Preferred Stock, which were designated pursuant to our shareholder rights plan, which has since expired, and no shares of such securities are currently outstanding. On July 20, 2016, we designated 3,468 shares as Series B Convertible Preferred Stock, of which 2,227.2 shares are currently outstanding. Our board of directors has authority, without further shareholder approval, to issue up to 39,996,532 additional shares of preferred stock, par value \$0.0001 per share, with such rights, preferences and privileges as our board may determine. Simultaneously with this offering, our board of directors is expected to designate 2,227.2 shares as Series B-1 Convertible Preferred Stock to be issued in exchange for the cancellation of our Series B Convertible Preferred Stock. In connection with this offering and the concurrent private placement, our board of directors will designate 2,900 shares as Series C Preferred Stock and 900 shares as Series D Preferred Stock. After the second closing, 2,900 shares of Series C Preferred Stock will be issued and outstanding, and 900 shares of Series D Preferred Stock will be issued and outstanding. When issued, the Series C Preferred Stock will constitute a single series of our preferred stock, par value \$0.0001 per share, and with a stated value (“Stated Value”) of \$1,000 per share.

Our board of directors has adopted resolutions approving the creation and designation of the Series C Preferred Stock as a series of preferred stock and approving the Certificate of Designation, which will be filed as an amendment to our certificate of incorporation. The Series C Preferred Stock will be, when issued, fully paid and nonassessable.

Liquidation. Upon liquidation, dissolution or winding-up of the Company, each holder of Series C Preferred Stock will be entitled to receive out of the assets, whether capital or surplus, of the Company an amount equal to the par value, plus any accrued and unpaid dividends thereon, for each share of Series C Preferred Stock before any distribution or payment shall be made to the holders of our common stock, and if the assets of the Company are insufficient to pay in full such amounts, then the entire assets to be distributed to the holders of Series C Preferred Stock shall be ratably distributed among such holders in accordance with the respective amounts that would be payable on such shares if all amounts payable thereon were paid in full. In addition, following such payment, each holder of Series C Preferred Stock shall be entitled to receive out of the assets, whether capital or surplus, of the Company the same amount that a holder of common stock would receive if the Series C Preferred Stock were fully converted, paid pari passu with all holders of common stock.

Voting Rights. Except as otherwise provided herein or as otherwise required by law, the Series C Preferred Stock shall have no voting rights. However, as long as any shares of Series C Preferred Stock are outstanding, we shall not, without the affirmative vote of the holders of a majority of the then outstanding shares of the Series C Preferred Stock, (a) alter or change adversely the powers, preferences or rights given to the Series C Preferred Stock or alter or amend the Certificate of Designation, (b) amend our certificate of incorporation or other charter documents in any manner that materially adversely affects any rights of the holders of the Series C Preferred Stock, (c) increase the number of authorized shares of Series C Preferred Stock, or (d) enter into any agreement with respect to any of the foregoing.

Dividends. The Series C Preferred Stock is entitled to receive dividends if any are declared on an “as converted to common stock” basis to and in the same form as dividends actually paid on shares of our common stock. No other dividends shall be paid on shares of Series C Preferred Stock.

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Conversion. You may elect to convert all or any portion of the Series C Preferred Stock into shares of common stock at any time and from time to time after receipt of, and contingent upon, the Shareholder Approval. The number of shares of common stock that will be issued upon conversion of the Preferred Stock will equal (A) the aggregate Stated Value of the Series C Preferred Stock being converted divided by (B) the conversion price then in effect (“Conversion Price”). The Conversion Price initially will equal to \$0.17, subject to adjustment for reverse and forward stock splits, stock dividends, stock combinations and other similar transactions as provided in the Certificate of Designation. If, at any time while the Series C Preferred Stock is outstanding, the Company or any subsidiary, as applicable, sells or grants any option to purchase or sells or grants any right to repurchase, or otherwise disposes of or issues any common stock or its equivalents entitling any person to acquire shares of common stock at an effective price per share that is lower than the then price of conversion (other than in connection with certain exempt issuances as set forth in the Certificate of Designation), then the price of conversion shall be reduced to equal to such lower price.

Limitation on Beneficial Ownership. Notwithstanding anything to the contrary set forth in the Certificate of Designation, no holder of Series C Preferred Stock will be entitled to receive shares of our common stock upon conversion of such holder’s Series C Preferred Stock to the extent (but only to the extent) that such receipt would cause such holder to become, directly or indirectly, a “beneficial owner” (within the meaning of Section 13(d) of the Exchange Act and the rules and regulations promulgated thereunder) of more than 4.99% of the shares of our common stock outstanding immediately after giving effect to such conversion (the “Beneficial Ownership Limitation”). A holder of the Series C Preferred Stock may, with at least 61 days’ prior notice to the Company, elect to increase or decrease the Beneficial Ownership Limitation; provided, however, that in no event may the holder Beneficial Ownership Limitation exceed 9.99%.

Additionally, notwithstanding anything to the contrary, if we have not obtained Shareholder Approval, we may not issue any shares of common stock in connection with any conversion of Series C Preferred Stock offered hereby.

Failure to Deliver Conversion Shares. If the Company fails to timely deliver shares of common stock upon conversion of the Series C Preferred Stock within three trading days after delivery of the notice of conversion, then the Company is obligated to pay to the holder, as liquidated damages, an amount equal to \$50 per business day (increasing to \$100 per business day after the third business day and increasing to \$200 per business day after the sixth business day) for each \$5,000 of Stated Value of the Series C Preferred Stock for which the Preferred Stock is converted which is not timely delivered.

Compensation for Buy-In on Failure to Timely Deliver Shares. If the Company fails to timely deliver shares of common stock upon conversion of the Series C Preferred Stock to the holder, and if after the required delivery date the holder is required by its broker to purchase (in an open market transaction or otherwise) or the holder or its brokerage firm otherwise purchases, shares of common stock to deliver in satisfaction of a sale by the holder of the common stock which the holder anticipated receiving upon such conversion, then the Company is obligated to (A) pay in cash to the holder the amount, if any, by which (x) the holder’s total purchase price (including brokerage commissions, if any) for the shares of common stock so purchased, minus any amounts paid to the holder by the Company as liquidated damages for late delivery of such shares, exceeds (y) the amount obtained by multiplying (1) the number of shares of common stock that the Company was required to deliver at the time of conversion of the Preferred Stock times (2) the price at which the sell order giving rise to such purchase obligation was executed, and (B) at the option of the holder, either reinstate the portion of the Series C Preferred Stock and equivalent number of shares of common stock for which such conversion was not honored (in which case such conversion shall be deemed rescinded) or deliver to the holder the number of shares of common stock that would have been issued had the Company timely complied with its delivery obligations.

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PLAN OF DISTRIBUTION

Overview

Pursuant to an engagement letter between us and Northland Securities, Inc., dated May 4, 2016, we have engaged Northland Securities, Inc. to act as the placement agent in connection with this offering. The Placement Agent is not purchasing or selling any of the Preferred Stock we are offering by this

prospectus supplement, and is not required to arrange the purchase or sale of any specific number of shares or dollar amount, but the placement agent has agreed to use “reasonable best efforts” to arrange for the sale of the Preferred Stock offered hereby. The placement agent may retain sub-agents and selected dealers in connection with this offering.

We have entered into a securities purchase agreement directly with each purchaser in this offering and the concurrent private placement (collectively, the “Securities Purchase Agreement”). All of the Series C Preferred Stock will be sold at the same price. We established the price following negotiations with prospective investors and with reference to the prevailing market price of our common stock, recent trends in such price and other factors. It is possible that not all of the Series C Preferred Stock will be sold at the initial closing, in which case our net proceeds would be reduced. We expect that the initial sale of the Series C Preferred Stock will be completed on or around the date indicated on the cover page of this prospectus supplement.

Securities Purchase Agreement

The Securities Purchase Agreement provides that the obligations of each purchaser are subject to certain conditions precedent, including, among other things, the absence of any material adverse change in our business and the receipt of customary opinions and closing certificates.

The Securities Purchase Agreement also requires the Company, on or before the 20th day following the initial closing, to file a proxy statement with the SEC for the purposes of holding a special meeting of our stockholders to vote on a proposal to approve the issuance of the shares of common stock underlying the Series C Preferred Stock, Series D Preferred Stock, Warrants and Placement Agent Warrants pursuant to the requirements of Nasdaq Listing Rule 5635(d). The Company further agreed to hold such shareholders’ meeting within 120 days of the initial closing.

Under the Securities Purchase Agreement, we have agreed not to contract to issue or announce the issuance or proposed issuance of any common stock or common stock equivalents for thirty (30) days following the date of Shareholder Approval, except on or after the date a definitive proxy statement for a special meeting of the shareholders for the purpose of obtaining the Shareholder Approval is filed with the SEC, we may file a primary registration statement registering for issuance and sale of our debt and our equity securities. In addition, we have also agreed that for a period commencing on the closing of the offering until the date that the Warrants are no longer outstanding, we will not effect or contract to effect a “Variable Rate Transaction” as defined in the Securities Purchase Agreement.

We have also agreed to grant to the purchasers, if we issue any shares of common stock or securities exercisable for, or convertible into, shares of common stock, with certain exceptions (including the issuance of the Company’s debt or equity securities in a public offering pursuant to an effective registration statement) (a “Subsequent Financing”) within twelve (12) months after the closing of the offering, the right to participate in up to 50% of the Subsequent Financing on the same terms, conditions and price provided for in the Subsequent Financing. Further, pursuant to the Securities Purchase Agreement, we are required to reserve for future issuance pursuant to the Preferred Stock and Warrants the greater of (i) 100% (300% following Shareholder Approval) of the maximum aggregate number of shares of common stock issuable upon conversion in full of all shares of the Series C Preferred Stock (as well as the Series D Preferred Stock and the Warrants) and (ii) 19.9% of our then issued and outstanding shares of common stock.

If we effect a Subsequent Financing at any time that any purchaser holds Series C Preferred Stock or any securities received upon any exchange of Series C Preferred Stock or any subsequent exchange of any securities

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received by such purchaser pursuant to this right (the “Exchanged Securities”), each purchaser has the right to exchange all or some of the Series C Preferred Stock or Exchanged Securities then held by such purchaser for any securities or units issued in a Subsequent Financing on a \$1.00 for \$1.00 basis based on the outstanding stated value of such Series C Preferred Stock, along with any accrued but unpaid liquidated damages and other amounts owing thereon, or based on the value of the Exchanged Securities based on the effective per share purchase price multiplied by the number such Exchanged Securities, and the effective price at which such securities were sold in such Subsequent Financing.

The foregoing does not purport to be a complete statement of the terms and conditions of the Securities Purchase Agreement, a copy of which is included as an exhibit to the Current Report on Form 8-K filed on October 31, 2016 in connection with this offering and incorporated by reference into the registration statement of which this prospectus supplement and the accompanying base prospectus form a part.

Commissions and Expenses

We will (1) pay the Placement Agent a cash placement agent fee equal to 6.0% of the gross proceeds of this offering and (2) issue the Placement Agent and its designees the Placement Agent Warrants to purchase shares of our common stock equal to, in the aggregate, 6.0% of the shares of common stock underlying the Preferred Stock sold to investors in this offering at an initial exercise price equal to \$0.2125 per share and on the same terms as the Warrants sold to such investors, other than as noted under “Private Placement Transaction, Series D Preferred Stock and Warrants—Description of the Warrants”. Pursuant to FINRA Rule 5110(g), with limited exceptions, neither the warrants issued to the Placement Agent nor any warrant shares issued upon exercise of the warrants may be sold, transferred, assigned, pledged, or hypothecated, or be the subject of any hedging, short sale, derivative, put, or call transaction that would result in the effective economic disposition of the securities by any person for a period of 180 days immediately following the date of effectiveness or commencement of sales of this offering, except the transfer of any security:

- by operation of law or by reason of reorganization of our company;
- to any FINRA member firm participating in the offering and the officers or partners thereof, if all securities so transferred remain subject to the lock-up restriction set forth above for the remainder of the time period;
- that is beneficially owned on a pro-rata basis by all equity owners of an investment fund, provided that no participating member manages or otherwise directs investments by the fund, and participating members in the aggregate do not own more than 10% of the equity in the fund; or
- the exercise or conversion of any security, if all securities received remain subject to the lock-up restriction set forth above for the remainder of the time period.

The following table shows the per share and total cash portion of the placement agent fee we will pay to the Placement Agent in connection with the sale of the Preferred Stock offered hereby (not including in the concurrent private placement), assuming the purchase of all of the Preferred Stock we are offering.

Per Share	\$	60.00
Total	\$	174,000

In addition, we have agreed to reimburse the placement agent at the closing for its out-of-pocket expenses, including fees of counsel to the Placement Agent. We estimate the total expenses of this offering, which will be payable by us, excluding the placement agent fee, will be approximately \$0.1 million.

We have agreed to indemnify the Placement Agent against certain liabilities, including liabilities under the Securities Act of 1933. We have also agreed to contribute to payments the placement agent may be required to make in respect to such liabilities.

Listing

Our common stock is listed on the Nasdaq Capital Market under the symbol “SSH.”

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Electronic Distribution

This prospectus supplement and the accompanying base prospectus may be made available in electronic format on websites or through other online services maintained by the Placement Agent, or by its affiliates. Other than this prospectus supplement and the accompanying base prospectus in electronic format, the information on the Placement Agent’s websites and any information contained in any other websites maintained by the Placement Agent is not part of this prospectus supplement or the accompanying base prospectus or the registration statement of which this prospectus supplement and the accompanying base prospectus forms a part, has not been approved and/or endorsed by us or the Placement Agent, and should not be relied upon by investors.

The foregoing does not purport to be a complete statement of the terms and conditions of the engagement letter with the Placement Agent or the Securities Purchase Agreement. A copy of the Securities Purchase Agreement with the investors is included as an exhibit to our Current Report on Form 8-K filed with the SEC on October 31, 2016 and incorporated by reference into the registration statement of which this prospectus supplement and the accompanying base prospectus form a part. See “Where You Can Find More Information”.

Regulation M Restrictions

The Placement Agent may be deemed to be an underwriter within the meaning of Section 2(a)(11) of the Securities Act, and any commissions received by it and any profit realized on the resale of the securities sold by it while acting as principal might be deemed to be underwriting discounts or commissions under the Securities Act. As an underwriter, the Placement Agent would be required to comply with the requirements of the Securities Act and the Exchange Act, including, without limitation, Rule 415(a)(4) under the Securities Act and Rule 10b-5 and Regulation M under the Exchange Act. These rules and regulations may limit the timing of purchases and sales of securities by the Placement Agent acting as a principal. Under these rules and regulations, the Placement Agent:

- must not engage in any stabilization activity in connection with our securities; and
- must not bid for or purchase any of our securities or attempt to induce any person to purchase any of our securities, other than as permitted under the Exchange Act, until it has completed their participation in the distribution.

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PRIVATE PLACEMENT TRANSACTION, SERIES D PREFERRED STOCK AND WARRANTS

Overview

In a concurrent private placement, we are selling to investors in this offering 900 shares of Series D Preferred Stock and Warrants to purchase 22,352,941 shares of our common stock in the aggregate. We are also issuing to the Placement Agent or its designees the Placement Agent Warrants to purchase shares of our common stock equal to, in the aggregate, 6.0% of the shares of common stock underlying the Preferred Stock sold to investors in this offering and in the concurrent private placement.

The Series D Preferred Stock, Warrants, Placement Agent Warrants and the shares of our common stock issuable upon the conversion of the Series D Preferred Stock or the exercise of the Warrants and Placement Agent Warrants are not being registered under the Securities Act pursuant to the registration statement of which this prospectus supplement and the accompanying base prospectus form a part and are not being offered hereby. Such shares of Series D Preferred Stock, Warrants and Placement Agent Warrants are being offered pursuant to an exemption from the registration requirement of the Securities Act provided in Section 4(a)(2) of the Securities Act and/or Regulation D.

The following description does not purport to be a complete statement of the terms and conditions of the Securities Purchase Agreement, Series D Certificate of Designation, the Warrants or the Registration Rights Agreement, copies of which are included as exhibits to the Current Report on Form 8-K filed on October 31, 2016 in connection with this offering and the concurrent private placement and incorporated by reference into the registration statement of which this prospectus supplement and the accompanying base prospectus form a part.

Description of Series D Convertible Preferred Stock

General. After the second closing, 900 shares of Series D Preferred Stock will be issued and outstanding. When issued, the Series D Preferred Stock will constitute a single series of our Preferred Stock, par value \$0.0001 per share, and with a stated value of \$1,000 per share.

Our board of directors has adopted resolutions approving the creation and designation of the Series D Preferred Stock as a series of preferred stock and approving the Certificate of Designation of Preferences, Rights and Limitations of Series D Convertible Preferred Stock (the “Series D Certificate of Designation”), which will be filed as an amendment to our certificate of incorporation. The Series D Preferred Stock will be, when issued, fully paid and nonassessable.

Liquidation. Upon liquidation, dissolution or winding-up of the Company, each holder of Series D Preferred Stock will be entitled to receive out of the assets, whether capital or surplus, of the Company an amount equal to the stated value, plus any accrued and unpaid dividends thereon, and any other fees or liquidated damages then due and owing thereon under the Series D Certificate of Designation for each share of Series D Preferred Stock before any distribution or payment shall be made to the holders of any common stock and all other common stock equivalents of the Company other than those securities which are explicitly senior or pari passu to the Series D Preferred Stock in dividend rights or liquidation preference, and if the assets of the Company are insufficient to pay in full such amounts, then the entire assets to be distributed to the holders of Series D Preferred Stock shall be ratably distributed among such holders in accordance with the respective amounts that would be payable on such shares if all amounts payable thereon were paid in full.

Voting Rights. Except as otherwise provided herein or as otherwise required by law, the Series D Preferred Stock shall have no voting rights. However, as long as any shares of Series D Preferred Stock are outstanding, we shall not, without the affirmative vote of the holders of a majority of the then outstanding shares of the Series D Preferred Stock, (a) alter or change adversely the powers, preferences or rights given to the Series D Preferred Stock or alter or amend the Series D Certificate of Designation, (b) authorize or create any class of stock ranking as to dividends, redemption or distribution of assets upon a liquidation senior to, or otherwise pari passu with, the Series D Preferred Stock (c) amend our certificate of incorporation or other charter documents in any manner that materially adversely affects any rights of the holders of the Series D Preferred Stock, (d) increase the number of authorized shares of Series D Preferred Stock, or (e) enter into any agreement with respect to any of the foregoing.

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Dividends. The Series D Preferred Stock is entitled to receive dividends if any are declared on an “as converted to common stock” basis to and in the same form as dividends actually paid on shares of our common stock. No other dividends shall be paid on shares of Series D Preferred Stock.

Conversion. You may elect to convert all or any portion of the Series D Preferred Stock into shares of common stock at any time and from time to time and after the Shareholder Approval, at a conversion price of \$0.17, subject to adjustment and for reverse and forward stock splits, stock dividends, stock combinations and other similar transactions of the common stock. The conversion price shall be (A) reduced following the first reverse stock split consummated while the Series D Preferred Stock is outstanding to the lesser of (i) the fixed conversion price as adjusted for the reverse stock split or (ii) 80% of the average of the daily volume weighted average price of our common stock for the tenth through twentieth trading days following the effectiveness of the reverse stock split, and (B) with respect to any conversion that occurs on or after the six month anniversary of the original issuance date, 80% of the average of the daily volume weighted average price of our common stock for the ten trading days immediately prior to the conversion date; however, in neither case shall the conversion price be reduced below \$0.042. If, at any time while the Series D Preferred Stock is outstanding, the Company or any subsidiary, as applicable sells or grants any option to purchase or sells or grants any right to repurchase, or otherwise disposes of or issues any common stock or its equivalents entitling any person to acquire shares of common stock at an effective price per share that is lower than the then price of conversion (other than in connection with certain exempt issuances as set forth in the Series D Certificate of Designation), then the price of conversion shall be reduced to such lower price.

Limitation on Beneficial Ownership. Notwithstanding anything to the contrary set forth in the Certificate of Designation, no holder of Series D Preferred Stock will be entitled to receive shares of our common stock upon conversion of such holder’s Series D Preferred Stock to the extent (but only to the extent) that such receipt would cause such holder to become, directly or indirectly, a “beneficial owner” (within the meaning of Section 13(d) of the Exchange Act and the rules and regulations promulgated thereunder) of more than the Beneficial Ownership Limitation. A holder of the Series D Preferred Stock may, with at least 61 days’ prior notice to the Company, elect to increase or decrease the Beneficial Ownership Limitation; provided, however, that in no event may the holder Beneficial Ownership Limitation exceed 9.99%. Additionally, notwithstanding anything to the contrary, if we have not obtained Shareholder Approval, we may not issue any shares of common stock in connection with any conversion of Series D Preferred Stock.

Redemption. Any time after the Company receives Shareholder Approval if certain conditions are met and on 20 trading days’ notice to the holders during which time such holders may elect to convert, the Company may redeem some or all of the Series D Preferred Stock for cash (i) if on or prior to 90 day anniversary of the issuance date of the Series D Preferred Stock, in an amount equal to 120% of the aggregate stated value then outstanding, (ii) if after the 90 day anniversary but on or before the 180 day anniversary of the issuance date, in an amount equal to 140% of the aggregate stated value then outstanding and (iii) if after the 180 day anniversary of the issuance date, in an amount equal to 150% of the aggregate stated value then outstanding, in each case, together with accrued and unpaid dividends, if any, and all liquidated damages and other amounts due on the Series D Preferred Stock, if any. Upon the occurrence of certain triggering events in the Series D Certificate of Designation, each holder shall have the right to require us to, with respect to some triggering events, redeem all of the Series D Preferred Stock then held by such holder for a redemption price equal to the Triggering Redemption Amount or, with respect to other triggering events, either redeem all of the Series D Preferred Stock then held by such holder for a redemption price, in shares of our common stock equal to the Triggering Redemption Amount divided by 75% of the average of the 10 VWAPs immediately prior to the date of election hereunder or (b) increase the dividend rate on all of the outstanding Series D Preferred Stock held by such holder to 18% per annum. “Triggering Redemption Amount” means the sum of (a) the greater of (i) 130% of the stated value and (ii) the product of (y) the VWAP on the trading day immediately preceding the date of the triggering event and (z) the stated value divided by the then conversion price, (b) all accrued but unpaid dividends thereon and (c) all liquidated damages and other costs, expenses or amounts due in respect of the Series D Preferred Stock.

Failure to Deliver Conversion Shares. If the Company fails to timely deliver shares of common stock upon conversion of the Series D Preferred Stock within three trading days after delivery of the notice of conversion, then the Company is obligated to pay to the holder, as liquidated damages, an amount equal to \$50 per business day

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(increasing to \$100 per business day after the third business day and increasing to \$200 per business day after the sixth business day) for each \$5,000 of stated value of the Series D Preferred Stock for which the Preferred Stock is converted which is not timely delivered.

Compensation for Buy-In on Failure to Timely Deliver Shares. If the Company fails to timely deliver shares of common stock upon conversion of the Series D Preferred Stock to the holder, and if after the required delivery date the holder is required by its broker to purchase (in an open market transaction or otherwise) or the holder or its brokerage firm otherwise purchases, shares of common stock to deliver in satisfaction of a sale by the holder of the common stock which the holder anticipated receiving upon such conversion, then the Company is obligated to (A) pay in cash to the holder the amount, if any, by which (x) the holder's total purchase price (including brokerage commissions, if any) for the shares of common stock so purchased, minus any amounts paid to the holder by the Company as liquidated damages for late delivery of such shares, exceeds (y) the amount obtained by multiplying (1) the number of shares of common stock that the Company was required to deliver at the time of conversion of the Preferred Stock times (2) the price at which the sell order giving rise to such purchase obligation was executed, and (B) at the option of the holder, either reinstate the portion of the Preferred Stock and equivalent number of shares of common stock for which such conversion was not honored (in which case such conversion shall be deemed rescinded) or deliver to the holder the number of shares of common stock that would have been issued had the Company timely complied with its delivery obligations.

Description of the Warrants

The Warrants will be exercisable at an exercise price of \$0.18 per share (subject to adjustment as provided below) for five years commencing on the Initial Exercise Date, which is the later of the date of the Shareholder Approval or the six month anniversary of the date of issuance. In the event that the shares underlying the Warrants are not subject to a registration statement at the time of exercise, the Warrants may be exercised on a cashless basis. Subject to limited exceptions, a holder of Warrants will not have the right to exercise any portion of its Warrants if the holder, together with its affiliates, would beneficially own in excess of the Beneficial Ownership Limitation, but upon prior notice to the Company, the holder may increase or decrease the Beneficial Ownership Limitation, provided that in no event shall the Beneficial Ownership Limitation exceed 9.99%. Additionally, notwithstanding anything to the contrary, if we have not obtained Shareholder Approval, we may not issue any shares of common stock in connection with any exercise of the Warrants.

The exercise price and number of the shares of our common stock issuable upon the exercise of the Warrants will be subject to adjustment in the event of any stock dividends and splits, reverse stock split, recapitalization, reorganization or similar transaction, as described therein. The Warrants (but not the Placement Agent Warrants) exercise price may be adjusted downward if we issue common stock or common stock equivalents at an effective price below the exercise price.

Registration Rights Agreement

In connection with the Securities Purchase Agreement, we entered into a registration rights agreement (the "Registration Rights Agreement") with the purchasers, whereby we agreed to register the resale of the shares of common stock issuable upon conversion of the Series D Preferred Stock and the Warrants within 45 days of each of the initial closing and the second closing.

Before all registrable securities under the Registration Rights Agreement have been sold or may be sold under Rule 144 without volume or manner-of-sale restrictions and without the current public information requirement, if there is not an effective registration statement covering all of the registrable securities and we determine to prepare and file with the SEC a registration statement relating to an offering of its equity securities for its own account or the account of others under the Securities Act (other than on Form S-4 or Form S-8), then each holder will be entitled to certain "piggyback" registration rights allowing them to include their shares in such registration statement, provided, however, that we shall not be required to register any registrable securities that are eligible for resale pursuant to Rule 144 (without volume restrictions or current public information requirements) promulgated by the SEC pursuant to the Securities Act or that are the subject of a then effective registration statement that is available for resales or other dispositions by such holder.

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We are responsible for all fees and expenses incident to the performance of or compliance with the Registration Rights Agreement borne by us whether or not any registrable securities are sold pursuant to a registration statement. The Registration Rights Agreement also contains customary indemnification provisions.

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EXPERTS

The consolidated financial statements of Sunshine Heart, Inc. and subsidiaries appearing in Sunshine Heart, Inc.'s Annual Report (Form 10-K) for the year ended December 31, 2015, have been audited by Ernst & Young LLP, independent registered public accounting firm, as set forth in their report thereon (which contains an explanatory paragraph describing conditions that raise substantial doubt about the Company's ability to continue as a going concern as described in Note 1 to the consolidated financial statements), incorporated by reference therein, and incorporated herein by reference. Such consolidated financial statements are incorporated herein by reference in reliance upon such report given on the authority of such firm as experts in accounting and auditing.

LEGAL MATTERS

Honigman Miller Schwartz and Cohn LLP will pass upon legal matters in connection with the validity of the securities offered hereby for us.

WHERE YOU CAN FIND MORE INFORMATION

We file reports, proxy statements and other information with the Securities and Exchange Commission, or the SEC, in accordance with the Exchange Act. You may read and copy our reports, proxy statements and other information filed by us at the public reference room of the SEC located at 100 F Street, N.E., Washington, D.C. 20549. Please call the SEC at 1-800-SEC-0330 for further information about the public reference rooms. Our reports, proxy statements and other information filed with the SEC are available free of charge to the public over the Internet at the SEC's website at <http://www.sec.gov>.

INCORPORATION OF INFORMATION BY REFERENCE

The SEC allows us to “incorporate by reference” certain information we file with them, which means that we can disclose important information by referring you to those documents. The information incorporated by reference is considered to be a part of this prospectus supplement, and information that we file later with the SEC will automatically update and supersede this information. We incorporate by reference the documents listed below and any future filings made by us with the SEC under Sections 13(a), 13(c), 14 or 15(d) of the Exchange Act until our offering is complete.

- (1) Our Annual Report on Form 10-K for the fiscal year ended December 31, 2015, filed with the SEC on March 15, 2016.
- (2) Our Quarterly Reports on Form 10-Q for the quarter ended March 31, 2016 filed with the SEC on May 5, 2016 and for the quarter ended June 30, 2016 filed with the SEC on August 11, 2016.
- (3) Our Current Reports on Form 8-K or 8-K/A filed with the SEC on March 2, 2016, March 25, 2016, May 31, 2016, June 15, 2016, July 11, 2016, July 22, 2016, August 24, 2016, September 23, 2016, September 29, 2016, October 21, 2016 and October 31, 2016.
- (4) the information specifically incorporated by reference into our annual report on Form 10-K for the year ended December 31, 2015 from our definitive proxy statement for the annual meeting of shareholders held on May 26, 2016, filed with the SEC on April 13, 2016.
- (5) the description of our common stock in our registration statement on Form 10 filed with the SEC on September 30, 2011, including any amendment or report filed for the purpose of updating such description.
- (6) the description of our Series A Junior Participating Preferred Stock, par value \$0.0001 per share, in our registration statement on Form 8-A filed with the SEC on June 14, 2013.

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- (7) the description of our Series B Convertible Preferred Stock, par value \$0.0001 per share, in our prospectus supplement filed with the SEC pursuant to Rule 424(b)(5) on July 22, 2016.
- (8) the description of our Series B-1 Convertible Preferred Stock, par value \$0.0001 per share, in our Current Report on Form 8-K filed with the SEC on October 31, 2016.

You may request a copy of these filings, at no cost, by writing or telephoning us at: Sunshine Heart, Inc., 12988 Valley View Road, Eden Prairie, Minnesota 55344, or you may call us at (952) 345-4200.

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PROSPECTUS

\$100,000,000



**Common Stock
Preferred Stock
Warrants to Purchase Common Stock, Preferred Stock or Debt Securities
Debt Securities
and
1,513,006 Shares of Common Stock**

This prospectus covers the offering and sale by us of any combination of common stock; preferred stock; warrants to purchase common stock, preferred stock or debt securities; and debt securities, each as described herein, in one or more offerings from time to time. We will describe in a prospectus supplement or sales agreement prospectus the securities we are offering and selling, as well as the specific terms of the securities. The aggregate initial offering price of all securities sold by us under this prospectus will not exceed \$100 million.

This prospectus also covers the resale by selling stockholders of up to an aggregate of 1,513,006 shares of our common stock issued or issuable upon the exercise of options and warrants previously issued. We will not receive proceeds from the sale of shares of our common stock by the selling stockholders. We may receive proceeds from the exercise of the options and warrants whose underlying shares of common stock are covered by this prospectus.

The securities may be offered and sold by us or selling stockholders from time to time at fixed prices, at market prices or at negotiated prices, and may be offered and sold to or through one or more underwriters, dealers or agents or directly to purchasers on a continuous or delayed basis. See “Plan of Distribution.”

Our common stock is currently listed on the NASDAQ Capital Market (“NASDAQ”) under the symbol “SSH.” On March 18, 2014, the last reported sale price of our common stock on NASDAQ was \$6.58.

Investing in our securities involves certain risks. See “Risk Factors” beginning on page 9 of this prospectus and in the applicable prospectus supplement or sales agreement prospectus for certain risks you should consider.

Neither the Securities and Exchange Commission nor any state securities commission has approved or disapproved of these securities or determined if this prospectus is truthful or complete. Any representation to the contrary is a criminal offense.

The date of this prospectus is May 5, 2014

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ABOUT THIS PROSPECTUS

This prospectus is a part of a registration statement that we filed with the Securities and Exchange Commission (the “SEC”), utilizing a shelf registration process. This prospectus covers the primary offering by us of up to an aggregate of \$100 million of securities and the secondary offering by the selling stockholders of up to an aggregate of 1,513,006 shares of our common stock issued or issuable upon the exercise of options and warrants previously issued. We may offer and sell any combination of the securities described in this prospectus and the selling stockholders may offer and sell shares of common stock in one or more offerings from time to time. This prospectus provides you with a general description of the securities that may be offered and sold hereunder. Each time we or the selling stockholders offer a type or series of securities, we will provide a prospectus supplement (which term includes, as applicable, the sales agreement prospectus filed with the registration statement of which this prospectus forms a part) that will describe the specific amounts, prices and other important terms of the securities.

A prospectus supplement may include a discussion of risks or other special considerations applicable to us or the offered securities. A prospectus supplement may also add, update or change information in this prospectus. If there is any inconsistency between the information in this prospectus and the applicable prospectus supplement, you must rely on the information in the prospectus supplement. Please carefully read both this prospectus and the applicable prospectus supplement in their entirety together with additional information described under the heading “Where You Can Find More Information” in this prospectus. This prospectus may not be used to offer or sell any securities unless accompanied by a prospectus supplement.

The registration statement containing this prospectus, including exhibits to the registration statement, provides additional information about us and the common stock offered under this prospectus. The registration statement can be read on the SEC’s website or at the SEC’s public reading room mentioned under the heading “Where You Can Find More Information” in this prospectus.

Neither we nor any selling stockholder has authorized any broker-dealer, salesperson or other person to give any information or to make any representation other than those contained or incorporated by reference in this prospectus and the accompanying supplement to this prospectus. You must not

rely upon any information or representation not contained or incorporated by reference in this prospectus or the accompanying prospectus supplement. This prospectus and the accompanying supplement to this prospectus do not constitute an offer to sell or the solicitation of an offer to buy securities, nor do this prospectus and the accompanying supplement to this prospectus constitute an offer to sell or the solicitation of an offer to buy securities in any jurisdiction to any person to whom it is unlawful to make such offer or solicitation. The information contained in this prospectus and the accompanying prospectus supplement speaks only as of the date set forth on the cover page and may not reflect subsequent changes in our business, financial condition, results of operations and prospects even though this prospectus and any accompanying prospectus supplement is delivered or securities are sold on a later date.

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SUMMARY

Because this is only a summary, it does not contain all of the information that may be important to you. Before you invest, you should carefully read the more detailed information contained in this prospectus and the information incorporated in this prospectus by reference. Our business involves significant risks. You should carefully consider the information under the heading “Risk Factors” beginning on page 9.

As used in this prospectus, unless otherwise indicated, the terms “we,” “us,” “our Company,” “the Company” and “Sunshine Heart” refer to Sunshine Heart, Inc., a Delaware corporation, and its subsidiaries.

All references in this prospectus to “\$” are to U.S. Dollars.

C-Pulse®, Sunshine®, Sunshine Heart™, C-Patch™ and other trademarks or service marks of Sunshine Heart appearing in this prospectus are the property of Sunshine Heart. Trade names, trademarks and service marks of other companies appearing in this registration statement are the property of the respective owners.

We obtained industry and market data used throughout this prospectus through our research, surveys and studies conducted by third parties and industry and general publications. We have not independently verified market and industry data from third-party sources.

Our Company

Overview

We are an early-stage medical device company focused on developing, manufacturing and commercializing our C-Pulse® Heart Assist System (the “**C-Pulse System**”) for treatment of Class III and ambulatory Class IV heart failure. The C-Pulse System utilizes the scientific principles of intra-aortic balloon counter-pulsation applied in an extra-aortic approach to assist the left ventricle by reducing the workload required to pump blood throughout the body, while increasing blood flow to the coronary arteries.

We are in the process of pursuing regulatory approvals necessary to sell our system in the United States. We completed enrollment of our North American feasibility clinical study in the first half of 2011. In November 2011, we announced the preliminary results of the six-month follow-up period for the feasibility study and we submitted the clinical data to the U.S. Food and Drug Administration (the “**FDA**”). In March 2012, the FDA notified us that it completed its review of the C-Pulse System feasibility study data, concluded we met the applicable agency requirements, and indicated that we can move forward with an investigational device exemption (“**IDE**”) application. In October 2012, we announced the results of the 12-month follow-up period for the feasibility study. In November 2012, the FDA provided us with unconditional approval to initiate a pivotal study. Enrollment of our COUNTER HF™ pivotal study commenced in September 2013. We currently expect to complete enrollment of our pivotal study in 2016 and do not anticipate marketing our system in the United States before 2017.

We obtained CE Mark approval for the C-Pulse System in July 2012 and have taken initial steps to evaluate the market potential for our system in targeted countries that accept the CE Mark in anticipation of commencing commercial sales. In order to gain additional clinical data and support reimbursement in Europe, we have initiated a post-market study in Europe which may include data from other geographies (e.g., Canada) that will evaluate endpoints similar to those for our U.S. pivotal study and enrollment under this study commenced in the second quarter of 2013. We do not currently plan to commercialize the C-Pulse System in any European country unless the product is approved for reimbursement. We do not expect to receive reimbursement in Germany before 2015 and cannot be certain of when, or if, we will receive reimbursement in Germany or other targeted countries.

We incurred net losses of \$21.8 million and \$14.1 million in the years ended December 31, 2013 and 2012, respectively. Historically, sales of the C-Pulse System to hospitals and clinics under contract in conjunction with our North American FDA clinical studies have generated all of our revenue. Our C-Pulse System is not approved for commercial sale. However, the FDA has assigned the C-Pulse System to a Category B designation, making it eligible for reimbursement at certain U.S. sites during our clinical studies. Consequently, upon implant of our C-Pulse System, we are able to invoice hospitals and clinics that are eligible for reimbursement by Medicare,

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Medicaid or private insurance companies. We expect to continue to incur significant net losses as we continue to conduct clinical studies and pursue commercialization, and as we ramp up sales of our system.

Our Market Opportunity

Heart failure is one of the leading causes of death in the United States and other developed countries. The American Heart Association estimates that 5.7 million people in the United States age 20 and over are affected by heart failure, with an estimated 670,000 new cases diagnosed each year. Nearly 30% of heart failure patients are below the age of 60, and congestive heart failure is the highest U.S. chronic health care expense category.

Heart failure is a progressive disease caused by impairment of the left heart's ability to pump blood to the various organs of the body. Patients with heart failure commonly experience shortness of breath, fatigue, difficulty exercising and swelling of the legs. The heart becomes weak or stiff and enlarges over time, making it harder for the left heart to pump the blood needed for the body to function properly. The severity of heart failure depends on how well a person's heart is able to pump blood throughout the body. A common measure of heart failure severity is the New York Heart Association (the "NYHA") Class guideline. Patients are classified in Classes I through IV based on their symptoms and functional limitations. Classes I and II include patients with mild heart failure, Class III with moderate heart failure, and Class IV with severe heart failure.

Our C-Pulse System is intended for NYHA Class III and ambulatory Class IV patients. It is estimated that approximately 1.5 million heart failure patients in the United States fall into this classification range, and we believe approximately 3.7 million patients in Europe are similarly affected.

Treatment alternatives currently available for Class III heart failure patients in the United States consist primarily of pharmacological therapies and pacing devices that are designed to address heart rhythm issues. Although these treatments may provide symptomatic relief and prolong the life of patients, they do not often halt the progression of congestive heart failure. Circulatory assist devices, specifically left ventricular assist devices ("LVADs") have been used to treat Class IV patients in the United States, and one product received FDA approval in the United States for Class IIIb patients although the device is not reimbursed by the Centers for Medicare and Medicaid Services for Class IIIb patients. These devices are designed to take over some or all of the pumping function of the heart by mechanically pumping blood into the aorta. Although such products are effective in increasing blood flow, by design these devices are in contact with the patient's bloodstream, increasing the risk of adverse events, including thrombosis, bleeding and neurologic events.

Our Strategy

Our goal is to become a market leader in the treatment of moderate to severe heart failure patients through the commercialization of our C-Pulse System, and to continue the development of the system to make it safer and more convenient for patients and physicians. We believe that our technology will provide us with a competitive advantage in the market for treating specific segments of heart failure patients. To achieve our objectives, we intend to:

- *Conduct a Pivotal Study in the United States* - We completed enrollment of the North American feasibility clinical study in the first half of 2011. In November 2011, we announced the preliminary results of the six-month follow-up period for our North American feasibility clinical study and we submitted the clinical data to the FDA. In March 2012, the FDA notified us that it completed its review of the C-Pulse System feasibility study data, concluded we met the applicable agency requirements, and indicated that we can move forward with an IDE application. In November 2012, the FDA provided us with unconditional approval to initiate a pivotal study. We commenced enrollment in our COUNTER HF pivotal study in the third quarter of 2013, and currently expect to complete it in 2016.
- *Conduct a Post-Market Study in Europe to Gain Additional Clinical Data* - We have retained consultants to analyze the conditions in various European countries for potential reimbursement for our system and the capabilities of existing hospitals and clinics to implant the C-Pulse System properly and understand the potential benefits of our system. We are targeting the leading LVAD/transplant centers to gain support, promote our technology, and conduct a non-randomized post-market study, the OPTIONS HF study, that will evaluate endpoints similar to those for our U.S. pivotal study to aid our

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reimbursement efforts and gain additional clinical data. We commenced enrollment in second quarter of 2013 and expect to complete enrollment in this study in 2014 in our initial target markets.

- *Prepare for the Commercial Launch of the C-Pulse System in Europe* - We obtained CE Mark approval for the C-Pulse System in July 2012 and have taken initial steps to evaluate the market potential for our system in targeted countries in Europe in anticipation of commencing commercial sales. We initially plan to sell the C-Pulse System in Europe directly and through experienced distributors in countries where our system is approved for reimbursement or where we otherwise believe there might be a potentially profitable market for our system. We expect our initial sales efforts in Europe will focus on Germany and Italy, which we believe are the largest potential markets for the C-Pulse System in Europe and have supported reimbursement for heart failure technologies in the past. We do not expect to receive reimbursement in Germany before 2015 and cannot be certain of when, or if, we will receive reimbursement in Germany or other targeted countries.
- *Continue to Enhance the C-Pulse System* - We believe it will be important to continue refining the C-Pulse System to make it more appealing for both patients and physicians. Since completing our 20-patient North American feasibility study, we have made several improvements to the C-Pulse System based on the feasibility study outcomes and feedback we received from surgeons and patients during the study. These changes include enhancements to our driver, cuff, and Percutaneous Interface Leads ("PIL"), among others. We have also completed initial animal studies of a next-generation, fully-implantable C-Pulse System, which would eliminate the risk of exit-site infections.

Our System

The C-Pulse System utilizes the scientific principles of intra-aortic balloon counter-pulsation applied in an extra-aortic approach to assist the left ventricle by reducing the workload required to pump blood throughout the body, while increasing blood flow to the coronary arteries. Combined, these potential benefits may help sustain the patient's current condition or, in some cases, reverse the heart failure process, thereby potentially preventing the need for later-stage heart failure devices, such as LVADs or artificial hearts, or for transplants. It may also provide relief from the symptoms of Class III and ambulatory Class IV heart failure, and improve quality of life and cardiac function. Based on the results from our feasibility study, we also believe that some patients treated with our C-Pulse System will be able to stop using the device due to sustained improvement in their conditions as a result of the therapy.

Once implanted, the C-Pulse cuff is positioned around the patient's ascending aorta above the aortic valve. An electrocardiogram sensing lead is then attached to the heart to determine timing for cuff inflation and deflation in synchronization with the heartbeat. As the heart fills with blood, the C-Pulse cuff inflates to push blood from the aorta to the rest of the body and to the heart muscle via the coronary arteries. Just before the heart pumps, the C-Pulse cuff deflates to reduce the heart's workload through pressure changes, allowing the heart to pump with less effort. The C-Pulse cuff and electrical leads are connected to a single line that is run through the abdominal wall to connect to a power driver outside the body. The system's single unit driver and battery source are contained inside a carrying bag.

Surgeons in the feasibility phase of our clinical study initially implanted the C-Pulse System in patients via a full sternotomy and then via a mini-thoracotomy. During the feasibility study, this minimally invasive procedure was developed to allow the C-Pulse System to be implanted via a small pacemaker-like incision between the patient's ribs and sternum, rather than through a full sternotomy. The first implant using this less invasive procedure was completed in 2010. Patients implanted via our minimally invasive procedure typically require a hospital stay of four to seven days in connection with implantation of the C-Pulse System, after which they return home. This compares to an average hospital stay of 14 days for patients implanted with the C-Pulse System via a full sternotomy. Therefore, we believe this less invasive approach can reduce procedural time, hospital stays, overall cost and patient risk as compared to treatment options that require a full sternotomy.

The C-Pulse System distinguishes itself from other mechanical heart failure therapies in two important aspects, which we believe differentiate our system from other products addressing moderate to severe heart failure patients. First, the C-Pulse System is placed outside a patient's vascular system. The C-Pulse cuff is placed around a

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patient's ascending aorta and assists the heart's normal pumping function, rather than being inserted into the vascular system and replacing heart function like other devices such as LVADs. Because the C-Pulse System remains outside the vascular system, there is less risk of complications such as blood clots, stroke and thrombosis in comparison to other mechanical devices that reside or function inside the vascular system. Because it rests outside the vasculature, it also does not require blood thinning agents that are necessary for patients with devices that are in contact with the bloodstream. As with any implanted device with a percutaneous driver lead, patients using our system have a risk of infection from the implantation procedure or from the driver lead exit site. Any untreated sternal/mediastinal infection arising from the implantation procedure or exit site infection could result in erosion of the aortic wall or an aortic disruption. Because our system has been implanted in a limited number of patients to date, the potential competitive disadvantages and risks associated with the use of our system are not fully known at this time.

Second, once implanted, the C-Pulse System does not need to be in constant operation, and patients can safely turn the device on or off at any time. This feature enables patients to disconnect from the device to perform certain activities such as showering. Patients are not required to visit a medical facility when turning our device on or off or using the device. However, to maximize the benefit from the C-Pulse System, patients are advised to turn off the system only for short periods of time and for specified activities. If the C-Pulse System is not used as directed, patients might experience a return of their heart failure symptoms, a loss of any improvement in their condition resulting from use of our system or an overall worsening of their heart failure symptoms compared to when they began using our system.

Clinical Development

Our North American feasibility clinical study was primarily designed to assess safety and provide indications of performance of the C-Pulse System in moderate to severe heart failure patients who suffer from symptoms such as shortness of breath and reduced mobility. In the first half of 2011, we completed enrollment and implantation of 20 patients in the study and received FDA approval of an expansion protocol to allow us to implant up to 20 additional patients and add two centers to our feasibility study. We have implanted three additional patients with the C-Pulse System since the original 20 patients, one in the United States and two in Canada. We currently do not have plans to implant any additional patients in the United States because the FDA has granted us full approval of the IDE pivotal study.

In November 2011, we announced the preliminary results of the six-month follow-up period for the feasibility study and we submitted the clinical data to the FDA. In July 2012 we also completed a two-year follow-up for a patient implanted with our system. We believe the results of the six-month and 12-month follow-up demonstrate the feasibility of the C-Pulse System implantation procedure and provide indications of safety and efficacy of the C-Pulse System in patients with moderate to severe heart failure necessary to proceed with a pivotal study. In March 2012, the FDA notified us that it completed its review of the C-Pulse System feasibility study data, concluded we met the applicable agency requirements, and indicated that we can move forward with an IDE application.

In November 2012, the FDA provided us with approval to initiate a pivotal study. We commenced enrollment of the COUNTER HF pivotal study in the third quarter of 2013, and we currently expect to complete our pivotal study enrollment in 2016. The COUNTER HF study is designed to enroll 388 patients randomized 1:1 versus optimal medical therapy, at up to 40 participating hospitals and clinics. The primary efficacy endpoint of the study is defined as freedom from worsening heart failure resulting in hospitalization, LVAD implantation, cardiac transplantation or heart failure related death.

Corporate Information

Sunshine Heart, Inc. was incorporated in Delaware on August 22, 2002. We began operating our business in November 1999 through Sunshine Heart Company Pty Ltd., which currently is a wholly owned Australian subsidiary of Sunshine Heart, Inc. In September of 2004, Chess Depository Instruments ("CDIs") representing beneficial ownership of our common stock began trading on the Australian Securities Exchange (the "ASX") under the symbol "SHC." Initially, each CDI represented one share of our common stock. In connection with the 1-for-200 reverse stock split we effected on January 27, 2012, we changed this ratio so that each CDI represented 1/200th of a share of our common stock.

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On September 30, 2011, we filed a Form 10 registration statement with the SEC, which was declared effective on February 14, 2012. The Form 10 registered our common stock under the Securities Exchange Act of 1934, as amended (the "Exchange Act"). Our common stock began trading on NASDAQ on February 16, 2012.

On February 5, 2013, we received conditional approval from the ASX to delist from the official list of the ASX. The delisting occurred at the close of trading on May 6, 2013.

Our principal executive offices are located at 12988 Valley View Road, Eden Prairie, Minnesota 55344, and our telephone number is (952) 345-4200. Our website address is www.sunshineheart.com. The information on, or that may be accessed through, our website is not incorporated by reference into and

should not be considered a part of this prospectus.

We qualify as an “emerging growth company” as defined in the Jumpstart Our Business Startups Act of 2012 (the “**JOBS Act**”). An emerging growth company may take advantage of specified reduced reporting and other burdens that are otherwise applicable generally to U.S. public companies. These provisions include:

- a requirement to have only two years of audited financial statements and only two years of related Management’s Discussion and Analysis of Financial Condition and Results of Operations disclosure; and
- an exemption from the auditor attestation requirement in the assessment of our internal control over financial reporting pursuant to the Sarbanes-Oxley Act of 2002.

We may take advantage of these provisions for up to five years or such earlier time that we are no longer an emerging growth company. We will cease to be an emerging growth company if we have more than \$1 billion in annual revenue, have more than \$700 million in market value of our shares of common stock held by non-affiliates, or issue more than \$1 billion of non-convertible debt over a three-year period. We may choose to take advantage of some but not all of these reduced burdens. In addition, the JOBS Act permits emerging growth companies to take advantage of an extended transition period to comply with new or revised accounting standards applicable to U.S. public companies. We have elected to take advantage of the benefits of this extended transition period, and as a result of this election, our financial statements may not be comparable to those of companies that comply with new or revised accounting standards for U.S. public companies.

The Securities We or the Selling Stockholders May Offer

We may offer shares of our common stock and preferred stock, warrants and/or debt securities, either individually or in combination, with a total value of up to \$100 million, and the selling stockholders may offer shares of our common stock issued or issuable upon the exercise of options and warrants previously issued, from time to time at prices and on terms to be determined by market conditions at the time of the offering. This prospectus provides you with a general description of the securities we and/or the selling stockholders, as applicable, may offer. Each time we and/or the selling stockholders, as applicable, offer a type or series of securities, we will provide a prospectus supplement that will describe the specific amounts, prices and other important terms of the securities, including, to the extent applicable:

- designation or classification;
- aggregate principal amount or aggregate offering price;
- maturity, if applicable;
- original issue discount, if any;
- rates and times of payment of interest, dividends or other payments, if any;

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- redemption, conversion, exercise, exchange, settlement or sinking fund terms, if any;
- conversion, exchange or settlement prices or rates, if any, and, if applicable, any provisions for changes to or adjustments in the conversion, exchange or settlement prices or rates and in the securities or other property receivable upon conversion, exchange or settlement;
- ranking;
- restrictive covenants, if any;
- voting or other rights, if any; and
- certain federal income tax considerations.

A prospectus supplement and any related free writing prospectus may also add, update or change information contained in this prospectus or in documents we have incorporated by reference into this prospectus. However, no prospectus supplement or free writing prospectus shall offer a security that is not registered and described in this prospectus at the time of the effectiveness of the registration statement of which this prospectus is a part.

This prospectus may not be used to offer or sell any securities unless accompanied by a prospectus supplement.

We and/or the selling stockholders, as applicable, may sell the securities directly or through underwriters, dealers or agents. We and/or the selling stockholders and such underwriters, dealers or agents, reserve the right to accept or reject all or part of any proposed purchase of securities. If we and/or the selling stockholders do offer securities through underwriters or agents, we will include in the applicable prospectus supplement:

- the names of those underwriters or agents;
- applicable fees, discounts and commissions to be paid to them;
- details regarding over-allotment options, if any; and
- the net proceeds to us.

Common Stock

Holders of our common stock are entitled to one vote per share for the election of directors and on all other matters that require stockholder approval, as further set forth herein under the heading “Description of Common Stock.” Subject to any preferential rights of any then outstanding preferred stock, in the event of our liquidation, dissolution or winding up, holders of our common stock are entitled to share ratably in the assets remaining after payment of liabilities and the liquidation preferences of any then outstanding preferred stock. Our common stock does not carry any preemptive rights enabling a holder to subscribe for, or receive shares of, any class of our common stock or any other securities convertible into shares of any class of our common stock, or any redemption rights.

Preferred Stock

Our board of directors will determine the designations, voting powers, preferences and rights of the preferred stock, as well as the qualifications, limitations or restrictions thereof, including dividend rights, conversion rights, preemptive rights, terms of redemption or repurchase, liquidation preferences, sinking fund terms and the number of shares constituting any series or the designation of any series. Convertible preferred stock will be convertible into our common stock or exchangeable for other securities. Conversion may be mandatory or at your option and would be at prescribed conversion rates.

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We will fix the rights, preferences, privileges, qualifications and restrictions of the preferred stock of each series that we sell under this prospectus and applicable prospectus supplements in a certificate of designation relating to that series. We will incorporate by reference into the registration statement of which this prospectus is a part the form of any certificate of designation that describes the terms of the series of preferred stock we are offering before the issuance of the related series of preferred stock. We urge you to read the prospectus supplement (and any related free writing prospectus) related to the series of preferred stock being offered, as well as the complete certificate of designation that contains the terms of the applicable series of preferred stock.

Warrants

We may issue warrants for the purchase of common stock, preferred stock and/or debt securities in one or more series, from time to time. We may issue warrants independently or together with common stock, preferred stock and/or debt securities, and the warrants may be attached to or separate from those securities.

The warrants will be evidenced by warrant certificates issued under one or more warrant agreements, which are contracts between us and an agent for the holders of the warrants. In this prospectus, we have summarized certain general features of the warrants. We urge you, however, to read the prospectus supplement (and any related free writing prospectus) related to the series of warrants being offered, as well as the complete warrant agreements and warrant certificates that contain the terms of the warrants. Complete warrant agreements and warrant certificates containing the terms of the warrants being offered will be filed as exhibits to the registration statement of which this prospectus is a part or will be incorporated by reference from reports we file with the SEC.

Debt Securities

We may issue debt securities from time to time, in one or more series, as either senior or subordinated debt or as senior or subordinated convertible debt. The senior debt securities will rank equally with any other unsubordinated debt that we may have and may be secured or unsecured. The subordinated debt securities will be subordinate and junior in right of payment, to the extent and in the manner described in the instrument governing the debt, to all or some portion of our indebtedness. Any convertible debt securities that we issue will be convertible into or exchangeable for our common stock, preferred stock or other securities of ours. Conversion may be mandatory or at your option and would be at prescribed conversion rates.

The debt securities will be issued under one or more documents called indentures, which are contracts between us and a trustee for the holders of the debt securities. In this prospectus, we have summarized certain general features of the debt securities. We urge you, however, to read the prospectus supplement (and any related free writing prospectus) related to the series of debt securities being offered, as well as the complete indentures that contain the terms of the debt securities. Indentures have been filed as exhibits to the registration statement of which this prospectus is a part, and supplemental indentures and forms of debt securities containing the terms of debt securities being offered will be filed as exhibits to the registration statement of which this prospectus is a part or will be incorporated by reference from reports we file with the SEC.

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RISK FACTORS

Before making an investment decision, you should carefully consider the risks described under “Risk Factors” in the applicable prospectus supplement, together with all of the other information appearing in this prospectus or incorporated by reference into this prospectus and any applicable prospectus supplement, in light of your particular investment objectives and financial circumstances. Our business, financial condition or results of operations could be materially adversely affected by any of these risks. The trading price of our securities could decline due to any of these risks, and you may lose all or part of your investment. This prospectus and the incorporated documents also contain forward-looking statements that involve risks and uncertainties. Our actual results could differ materially from those anticipated in these forward-looking statements as a result of certain factors, including the risks mentioned elsewhere in this prospectus. You should also consider the risks, uncertainties and assumptions discussed under the heading “Risk Factors” included in our most recent Annual Report on Form 10-K, which is on file with the SEC and incorporated herein by reference, and which may be amended, supplemented or superseded from time to time by other reports we file with the SEC in the future.

FORWARD-LOOKING STATEMENTS

The SEC encourages companies to disclose forward-looking information so that investors can better understand a company’s future prospects and make informed investment decisions. This prospectus contains such “forward-looking statements” within the meaning of the Private Securities Litigation Reform Act of 1995. These statements may be made directly in this prospectus, and they may also be made a part of this prospectus by reference to other documents filed with the SEC, which is known as “incorporation by reference.”

Words such as “may,” “anticipate,” “estimate,” “expects,” “projects,” “intends,” “plans,” “believes” and words and terms of similar substance used in connection with any discussion of future operating or financial performance identify forward-looking statements. All forward-looking statements are management’s present expectations of future events and are subject to a number of risks and uncertainties that could cause actual results to differ materially from those described in the forward-looking statements. Forward-looking statements might include one or more of the following:

- anticipated results of financing activities;
- anticipated agreements with marketing partners;
- anticipated clinical study timelines or results;
- anticipated research and product development results;
- projected regulatory timelines;
- descriptions of plans or objectives of management for future operations, products or services;
- forecasts of future economic performance; and
- descriptions or assumptions underlying or relating to any of the above items.

Please also see the discussion of risks and uncertainties under the heading “Risk Factors” beginning on page 9.

In light of these assumptions, risks and uncertainties, the results and events discussed in the forward-looking statements contained in this prospectus or in any document incorporated by reference might not occur. Investors are cautioned not to place undue reliance on the forward-looking statements, which speak only as of the date of this prospectus or the date of the document incorporated by reference in this prospectus. We are not under any obligation, and we expressly disclaim any obligation, to update or alter any forward-looking statements, whether as a result of new information, future events or otherwise. All subsequent forward-looking statements attributable to

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Sunshine Heart or to any person acting on its behalf are expressly qualified in their entirety by the cautionary statements contained or referred to in this section.

RATIOS OF EARNINGS TO FIXED CHARGES

If we offer debt securities and/or preference equity securities under this prospectus, then we will, if required at that time, provide a ratio of earnings to fixed charges and/or ratio of combined fixed charges and preference dividends to earnings, respectively, in the applicable prospectus supplement for such offering.

USE OF PROCEEDS

We will retain broad discretion over the use of the net proceeds from our sale of securities offered hereby. Except as described in any prospectus supplement, we currently anticipate using the net proceeds from our sale of securities offered hereby primarily for general corporate purposes, including the further development, manufacture and commercialization of our C-Pulse System and for other working capital expenditures.

In the case of sales by the selling stockholders, we will not receive any of the proceeds from such sales; however, we may receive proceeds from cash payments made in connection with the exercise of options and warrants held by the selling stockholders that are covered by this prospectus.

DESCRIPTION OF COMMON STOCK

The following description of our common stock is a summary only and is qualified in its entirety by reference to our certificate of incorporation and bylaws, both of which are exhibits to the registration statement of which this prospectus is a part, have been filed with the SEC and are available at the SEC’s website at www.sec.gov.

General Terms

We have authority to issue up to 100,000,000 shares of common stock, par value \$0.0001 per share. As of March 18, 2014, we had 16,872,698 shares of our common stock outstanding. All outstanding shares of our common stock are fully paid and non-assessable.

The transfer agent and registrar for transfers of shares of our common stock is American Stock Transfer & Trust Company, LLC.

The rights, preferences and privileges of the holders of our 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. Subject in all cases to the foregoing limitation, the holders of our common stock have the rights, preferences and privileges below.

Dividends

Holders of our common stock are entitled to receive dividends when and as declared by our board of directors out of funds legally available.

Voting

Holders of our common stock are entitled to one vote for each share on each matter properly submitted to our stockholders for their vote; provided however, that except as otherwise required by law, holders of our common stock will not be entitled to vote on any amendment to our certificate of incorporation (including any certificate of designation filed with respect to any series of preferred stock) that relates solely to the terms of a series of outstanding preferred stock if the holders of such affected series are entitled, either separately or together as a class with the holders of one or more other such series, to vote thereon by law or pursuant to our certificate of incorporation (including any certificate of designation filed with respect to any series of preferred stock).

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Subject to the voting restrictions described above, holders of our common stock may adopt, amend or repeal our bylaws and/or alter certain provisions of our certificate of incorporation with the affirmative vote of the holders of at least 66 2/3% of the voting power of all of the then-outstanding shares of our capital stock entitled to vote generally in the election of directors, voting together as a single class, in addition to any vote of the holders of a class or series of our stock required by law or our certificate of incorporation. Those provisions of our certificate of incorporation that may be altered only by the super-majority vote described above relate to:

- the number of directors on our board of directors, the classification of our board of directors and the terms of the members of our board of directors;
- the limitations on removal of any of our directors described below under “—Anti-Takeover Effects of Certain Provisions of Our Certificate of Incorporation and Bylaws, Our Stockholder Rights Plan, and Delaware Law;”
- the ability of our directors to fill any vacancy on our board of directors by the affirmative vote of a majority of the directors then in office under certain circumstances;
- the ability of our board of directors to adopt, amend or repeal our bylaws and the super-majority vote of our stockholders required to adopt, amend or repeal our bylaws described above;
- the limitation on action of our stockholders by written action described below under “—Anti-Takeover Effects of Certain Provisions of Our Certificate of Incorporation and Bylaws, Our Stockholder Rights Plan, and Delaware Law;”
- the choice of forum provision described below under “—Choice of Forum;”
- the limitations on director liability and indemnification described below under the heading “—Limitation on Liability of Directors and Indemnification;” and
- the super-majority voting requirement to amend our certificate of incorporation described above.

Conversion, Redemption and Preemptive Rights

Holders of our common stock do not have any conversion, redemption or preemptive rights pursuant to our organizational documents.

Liquidation, Dissolution and Winding-up

In the event of our liquidation, dissolution or winding up, holders of our common stock are entitled to share ratably in any assets remaining after the satisfaction in full of the prior rights of creditors and the aggregate of any liquidation preference pursuant to the terms of any certificate of designation filed with respect to any series of preferred stock.

Anti-Takeover Effects of Certain Provisions of Our Certificate of Incorporation and Bylaws, Our Stockholder Rights Plan, and Delaware Law

Certificate of Incorporation and Bylaws

Certain provisions of our certificate of incorporation and bylaws may be considered to have an anti-takeover effect, such as those provisions:

- providing for our board of directors to be divided into three classes with staggered three-year terms, with only one class of directors being elected at each annual meeting of our stockholders and the other classes continuing for the remainder of their respective three-year terms;

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- authorizing our board of directors to issue from time to time any series of preferred stock and fix the voting powers, designation, powers, preferences and rights of the shares of such series of preferred stock;
- prohibiting stockholders from acting by written consent in lieu of a meeting;
- requiring advance notice of stockholder intention to put forth director nominees or bring up other business at a stockholders’ meeting;
- prohibiting stockholders from calling a special meeting of stockholders;
- requiring a 66 2/3% super-majority stockholder approval in order for stockholders to alter, amend or repeal certain provisions of our certificate of incorporation;

- requiring a 66 2/3% super-majority stockholder approval in order for stockholders to adopt, amend or repeal our bylaws;
- providing that, subject to the rights of the holders of any series of preferred stock to elect additional directors under specified circumstances, neither the board of directors nor any individual director may be removed without cause;
- creating the possibility that our board of directors could prevent a coercive takeover of our Company due to the significant amount of authorized, but unissued shares of our common stock and preferred stock;
- providing that, subject to the rights of the holders of any series of preferred stock, the number of directors shall be fixed from time to time exclusively by our board of directors pursuant to a resolution adopted by a majority of the total number of authorized directors; and
- providing that any vacancies on our board of directors under certain circumstances will be filled only by a majority of our board of directors then in office, even if less than a quorum, and not by the stockholders.

Stockholder Rights Plan

On June 14, 2013, the Company adopted a stockholder rights plan (the “**Rights Plan**”), which entitles the holders of the rights to purchase from the Company 1/1,000th of a share of Series A Junior Participating Preferred Stock, par value \$0.0001 per share, at a purchase price of \$35.00 per share, as adjusted (a “**Right**”), upon certain trigger events. In connection therewith, on June 14, 2013, the Company’s board of directors authorized 30,000 shares of Series A Junior Participating Preferred Stock and it declared a dividend of one Right per each share of common stock of the Company outstanding as of June 24, 2013. Each 1/1,000th of a share of Series A Junior Participating Preferred Stock has terms that are substantially the economic and voting equivalent of one share of the Company’s common stock. However, until a Right is exercised or exchanged in accordance with the provisions of the Rights Plan, the holder thereof will have no rights as a stockholder of the Company, including, but not limited to, the right to vote for the election of directors or upon any matter submitted to stockholders of the Company. The Rights Plan has a three-year term and the board of directors may terminate the Rights Plan at any time (subject to the redemption of the Rights for a nominal value). The Rights may cause substantial dilution to a person or group (together with all affiliates and associates of such person or group and any person or group of persons acting in concert therewith) that acquires beneficial ownership of 15% or more of the Company’s stock on terms not approved by the board of directors or takes other specified actions.

Delaware Law

We are also subject to Section 203 of the Delaware General Corporation Law, as amended (the “**DGCL**”), which generally prohibits a Delaware corporation from engaging in any business combination with any interested

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stockholder for a period of three years following the date that the stockholder became an interested stockholder, unless:

- prior to that date, our board of directors approved either the business combination or the transaction that resulted in the stockholder becoming an interested stockholder;
- upon consummation of the transaction that resulted in the stockholder becoming an interested stockholder, the interested stockholder owned at least 85% of our voting stock outstanding at the time the transaction commenced, excluding for purposes of determining the number of shares outstanding (but not the outstanding voting stock owned by the interested stockholder) those shares owned by (i) persons who are directors and also officers and (ii) employee stock plans in which employee participants do not have the right to determine confidentially whether shares held subject to the plan will be tendered in a tender or exchange offer; or
- on or subsequent to that date, the business combination is approved by our board of directors and authorized at an annual or special meeting of stockholders, and not by written consent, by the affirmative vote of at least 66 2/3% of the outstanding voting stock that is not owned by the interested stockholder.

In general, Section 203 of the DGCL defines an interested stockholder as an entity or person beneficially owning 15% or more of the outstanding voting stock of the corporation and any entity or person affiliated with or controlling or controlled by any of these entities or persons.

The above-summarized provisions of our certificate of incorporation and bylaws, the Rights Plan and the above-summarized provisions of the DGCL could make it more difficult to acquire us by means of a tender offer, a proxy contest or otherwise, or to remove incumbent officers and directors. These provisions are expected to discourage certain types of coercive takeover practices and takeover bids that our board of directors may consider inadequate and to encourage persons seeking to acquire control of us to first negotiate with our board of directors. We believe that the benefits of increased protection of our ability to negotiate with the proponent of an unfriendly or unsolicited proposal to acquire or restructure us outweigh the disadvantages of discouraging takeover or acquisition proposals because, among other things, negotiation of these proposals could result in an improvement of their terms.

Choice of Forum

Our certificate of incorporation provides that, unless we consent in writing otherwise, the Court of Chancery of the State of Delaware will be the sole and exclusive forum for any (i) derivative action or proceeding brought on our behalf; (ii) action asserting a breach of fiduciary duty owed by any of our directors, officers or other employees to us or any of our stockholders; (iii) action asserting a claim pursuant to the DGCL; or (iv) action asserting a claim that is governed by the internal affairs doctrine.

Limitation on Liability of Directors and Indemnification

Our certificate of incorporation limits the liability of our directors to the fullest extent permitted by Delaware law. Delaware law provides that directors of a corporation will not be personally liable for monetary damages for breach of their fiduciary duties as directors, except for liability for any:

- breach of their duty of loyalty to us or our stockholders;

- act or omission not in good faith or that involves intentional misconduct or a knowing violation of law;
- unlawful payment of dividends or redemption of shares as provided in Section 174 of the DGCL; or
- transaction from which the directors derived an improper personal benefit.

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These limitations of liability do not apply to liabilities arising under federal securities laws and do not affect the availability of equitable remedies such as injunctive relief or rescission.

Our bylaws provide that we will indemnify and advance expenses to our directors and officers to the fullest extent permitted by law or, if applicable, pursuant to indemnification agreements. They further provide that we may choose to indemnify our other employees or agents from time to time. Subject to certain exceptions and procedures, our bylaws also require us to advance to any person who was or is a party, or is threatened to be made a party, to any proceeding by reason of the person's service as one of our directors or officers all expenses incurred by the person in connection with such proceeding.

Section 145(g) of the DGCL and our bylaws also permit us to secure insurance on behalf of any officer, director, employee or other agent for any liability arising out of his or her actions in connection with their services to us, regardless of whether our bylaws permit indemnification. We maintain a directors' and officers' liability insurance policy.

We entered into indemnification agreements with each of our directors and executive officers that provide, in general, that we will indemnify them to the fullest extent permitted by law in connection with their service to us or on our behalf and, subject to certain exceptions and procedures, that we will advance to them all expenses that they incur in connection with any proceeding to which they are, or are threatened to be made, a party.

At present, there is no pending litigation or proceeding involving any of our directors or officers as to which indemnification is required or permitted, and we are not aware of any threatened litigation or proceeding that may result in a claim for indemnification.

Insofar as indemnification for liabilities arising under the Securities Act may be permitted to directors, officers and controlling persons of the Company pursuant to the foregoing provisions, or otherwise, the Company has been advised that in the opinion of the SEC this indemnification is against public policy as expressed in the Securities Act and is therefore unenforceable.

Listing

Our common stock is listed on NASDAQ under the symbol "SSH." CDIs representing beneficial ownership of our common stock traded on the ASX from September 2004 until the Company's delisting from the ASX, which occurred at the close of trading on May 6, 2013.

DESCRIPTION OF PREFERRED STOCK

We have authority to issue up to 40,000,000 shares of preferred stock, par value \$0.0001 per share, 30,000 shares of which are designated as Series A Junior Participating Preferred Stock in connection with the Rights Plan and none of which were outstanding as of March 18, 2014.

We may issue any class of preferred stock in any series. Our board of directors has the authority to establish and designate series, and to fix the number of shares included in each such series and to determine or alter for each such series, such voting powers, designation, preferences, and relative participating, optional, or other rights and such qualifications, limitations or restrictions thereof. Our board of directors is not restricted in repurchasing or redeeming such stock while there is any arrearage in the payment of dividends or sinking fund installments. Our board of directors is 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.

Prior to issuance of shares of any series of preferred stock, our board of directors is required by Delaware law to adopt resolutions and file a certificate of designation with the Secretary of State of the State of Delaware. The certificate of designation fixes for each class or series the terms, preferences, conversion or other rights, voting

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powers, restrictions, limitations as to dividends or other distributions, qualifications and terms or conditions of redemption for each class or series. Any shares of preferred stock will, when issued, be fully paid and non-assessable.

For any series of preferred stock that we may issue, our board of directors will determine and the prospectus supplement relating to such series will describe:

- the title and stated value of the preferred stock;
- the number of shares of the preferred stock offered, the liquidation preference per share and the offering price of the preferred stock;
- the dividend rate(s), period(s) or payment date(s) or method(s) of calculation applicable to the preferred stock;
- whether dividends are cumulative or non-cumulative and, if cumulative, the date from which dividends on the preferred stock will accumulate;

- our right, if any, to defer payment of dividends and the maximum length of any such deferral period;
- the procedures for auction and remarketing, if any, for the preferred stock;
- the provisions for a sinking fund, if any, for the preferred stock;
- the provision for redemption, if applicable, of the preferred stock;
- any listing of the preferred stock on any securities exchange;
- the terms and conditions, if applicable, upon which the preferred stock will be convertible into common stock, including the conversion price or manner of calculation and conversion period;
- voting rights, if any, of the preferred stock;
- whether interests in the preferred stock will be represented by depositary shares;
- a discussion of any material or special 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 the liquidation, dissolution or winding up of our affairs;
- any limitations on issuance of any class or series of preferred stock ranking senior to or on a parity with the class or series of preferred stock as to dividend rights and rights upon the liquidation, dissolution or winding up of our affairs; and
- any other specific terms, preferences, rights, limitations or restrictions of the preferred stock.

Delaware law provides that the holders of preferred stock will have the right to vote separately as a class (or, in some cases, as a series) on an amendment to our certificate of incorporation if the amendment would change the par value or, unless the certificate of incorporation then in effect provides otherwise, the number of authorized shares of such class or change the powers, preferences or special rights of such class or series so as to adversely affect the class or series, as the case may be. This right is in addition to any voting rights that may be provided for in the applicable certificate of designation.

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DESCRIPTION OF WARRANTS

The following is a general description of the terms of the warrants we may issue from time to time unless we provide otherwise in the prospectus supplement. Particular terms of any warrants we offer will be described in the prospectus supplement relating to such warrants.

General Terms

We may issue warrants to purchase common stock, preferred stock or debt securities. Warrants may be issued independently or together with other securities and may be attached or separate from such securities. We will issue each series of warrants under a separate warrant agreement to be entered into between us and a warrant agent. The warrant agent will act solely as our agent and will not assume any obligation or relationship of agency for or with holders or beneficial owners of warrants.

A prospectus supplement will describe the particular terms of any series of warrants we may issue, including the following:

- the title and aggregate number of the warrants;
- the price or prices at which the warrants will be issued and the currency or currencies in which the price of the warrants may be payable;
- if applicable, the designation and terms of the securities with which the warrants are issued and the number of warrants issued with each such security or each principal amount of such security;
- in the case of warrants to purchase debt securities, the principal amount of debt securities purchasable upon exercise of one warrant;
- in the case of warrants to purchase common stock or preferred stock, the number of shares of common stock or preferred stock, as the case may be, purchasable upon the exercise of one warrant and the price at which those shares may be purchased upon such exercise;
- the date on which the right to exercise the warrants will commence and the date on which such right will expire (subject to any extension);
- whether the warrants will be issued in registered form or bearer form;
- if applicable, the minimum or maximum amount of the warrants that may be exercised at any one time;
- if applicable, the date on and after which the warrants and the related securities will be separately transferable;
- if applicable, the procedures for adjusting the exercise price and number of shares of common stock or preferred stock purchasable upon the exercise of each warrant upon the occurrence of certain events, including stock splits, reverse stock splits, combinations, subdivisions or reclassifications of common stock or preferred stock;

- the effect of any merger, consolidation, sale or other disposition of our business on the warrant agreement and the warrants;
- the terms of any rights to redeem or call the warrants;
- information with respect to book-entry procedures, if any;
- the terms of the securities issuable upon exercise of the warrants;

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- if applicable, a discussion of any material or special U.S. federal income tax consequences of holding or exercising the warrants; and
- any other terms of the warrants, including terms, procedures and limitations relating to the exchange and exercise of the warrants.

We and the warrant agent may amend or supplement the warrant agreement for a series of warrants without the consent of the holders of the warrants issued thereunder to effect changes that are not inconsistent with the provisions of the warrants and that do not materially and adversely affect the interests of the holders of the warrants.

Exercise of Warrants

Each warrant will entitle the holder to purchase for cash such common stock or preferred stock at the exercise price or such principal amount of debt securities as shall in each case be set forth in, or be determinable as set forth in, the prospectus supplement relating to the warrants offered thereby. Warrants may be exercised as set forth in the prospectus supplement beginning on the date specified therein and continuing until the close of business on the expiration date set forth in the prospectus supplement. After the close of business on the expiration date, unexercised warrants will become void.

Upon receipt of the required payment and the warrant certificate properly completed and duly executed at the corporate trust office of the warrant agent or any other office indicated in the applicable prospectus supplement, we will issue and deliver the securities purchasable upon such exercise. If fewer than all of the warrants represented by the warrant certificate are exercised, then we will issue a new warrant certificate for the remaining amount of warrants. If we so indicate in the applicable prospectus supplement, holders of the warrants may surrender securities as all or part of the exercise price for warrants.

Prior to exercising their warrants, holders of warrants will not have any of the rights of holders of the securities purchasable upon such exercise, including, in the case of warrants to purchase common stock or preferred stock, the right to receive dividends, if any, or payments upon our liquidation, dissolution or winding up or to exercise any voting rights or, in the case of warrants to purchase debt securities, the right to receive principal, premium, if any, or interest payments, on the debt securities purchasable upon exercise or to enforce covenants in the applicable indenture.

Governing Law

Any warrants and related warrant agreements will be governed by, and construed in accordance with, the laws of the State of New York.

DESCRIPTION OF DEBT SECURITIES

The following is a general description of the terms of debt securities we may issue from time to time unless we provide otherwise in the prospectus supplement. Particular terms of any debt securities we offer will be described in the prospectus supplement relating to such debt securities. Unless the context requires otherwise, whenever we refer to the indentures, we also are referring to any supplemental indentures that specify the terms of a particular series of debt securities.

We will issue the senior debt securities under the senior indenture that we will enter into with the trustee named in the senior indenture. We will issue the subordinated debt securities under the subordinated indenture that we will enter into with the trustee named in the subordinated indenture. The indentures will be qualified under the Trust Indenture Act of 1939 (the “*Trust Indenture Act*”). We use the term “*debenture trustee*” to refer to either the trustee under the senior indenture or the trustee under the subordinated indenture, as applicable. We have filed forms of indentures to the registration statement of which this prospectus is a part, and supplemental indentures and forms of debt securities containing the terms of the debt securities being offered will be filed as exhibits to the registration statement of which this prospectus is a part or will be incorporated by reference from reports that we file with the SEC.

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The following summaries of material provisions of the senior debt securities, the subordinated debt securities and the indentures are subject to, and qualified in their entireties by reference to, all of the provisions of the indenture applicable to a particular series of debt securities. We urge you to read the applicable prospectus supplements and any related free writing prospectuses related to the debt securities that we may offer under this prospectus, as well as the complete indentures that contain the terms of the debt securities. Except as we may otherwise indicate, the terms of the senior indenture and the subordinated indenture are identical.

General

We will describe in the applicable prospectus supplement the terms of the series of debt securities being offered, including:

- the title;
- the principal amount being offered, and if a series, the total amount authorized and the total amount outstanding;
- any limit on the amount that may be issued;

- whether or not we will issue the series of debt securities in global form, the terms and who the depositary will be;
- the maturity date;
- whether and under what circumstances, if any, we will pay additional amounts on any debt securities held by a person who is not a U.S. person for tax purposes, and whether we can redeem the debt securities if we have to pay such additional amounts;
- the annual interest rate, which may be fixed or variable, or the method for determining the rate and the date interest will begin to accrue, the dates interest will be payable and the regular record dates for interest payment dates or the method for determining such dates;
- whether or not the debt securities will be secured or unsecured, and the terms of any secured debt;
- the terms of the subordination of any series of subordinated debt;
- the place where payments will be payable;
- restrictions on transfer, sale or other assignment, if any;
- our right, if any, to defer payment of interest and the maximum length of any such deferral period;
- the date, if any, after which, and the price at which, we may, at our option, redeem the series of debt securities pursuant to any optional or provisional redemption provisions and the terms of those redemption provisions;
- the date, if any, on which, and the price at which we are obligated, pursuant to any mandatory sinking fund or analogous fund provisions or otherwise, to redeem, or at the holder's option to purchase, the series of debt securities and the currency or currency unit in which the debt securities are payable;
- whether the indenture will restrict our ability and/or the ability of our subsidiaries to: incur additional indebtedness; issue additional securities; create liens; pay dividends and make distributions in respect of our capital stock and the capital stock of our subsidiaries; redeem capital stock; place restrictions on our subsidiaries' ability to pay dividends, make distributions or transfer assets; make investments or

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other restricted payments; sell or otherwise dispose of assets; enter into sale-leaseback transactions; engage in transactions with stockholders and affiliates; issue or sell stock of our subsidiaries; or effect a consolidation or merger;

- whether the indenture will require us to maintain any interest coverage, fixed charge, cash flow-based, asset-based or other financial ratios;
- a discussion of any material U.S. federal income tax considerations applicable to the debt securities;
- information describing any book-entry features;
- provisions for a sinking fund purchase or other analogous fund, if any;
- the applicability of the provisions in the indenture on discharge;
- whether the debt securities are to be offered at a price such that they will be deemed to be offered at an "original issue discount" as defined in paragraph (a) of Section 1273 of the Internal Revenue Code of 1986, as amended;
- the denominations in which we will issue the series of debt securities, if other than denominations of \$1,000 and any integral multiple thereof;
- the currency of payment of debt securities if other than U.S. dollars and the manner of determining the equivalent amount in U.S. dollars; and
- any other specific terms, preferences, rights or limitations of, or restrictions on, the debt securities, including any additional events of default or covenants provided with respect to the debt securities, and any terms that may be required by us or advisable under applicable laws or regulations.

Conversion or Exchange Rights

We will set forth in the prospectus supplement the terms on which a series of debt securities may be convertible into or exchangeable for our common stock or our other securities, if applicable. We will include provisions as to whether conversion or exchange is mandatory, at the option of the holder, or at our option. We may include provisions pursuant to which the number of shares of our common stock or our other securities that the holders of the series of debt securities receive would be subject to adjustment.

Consolidation, Merger or Sale

Unless we provide otherwise in the prospectus supplement applicable to a particular series of debt securities, the indentures will not contain any covenant that restricts our ability to merge or consolidate, or sell, convey, transfer or otherwise dispose of all or substantially all of our assets. However, any successor to or acquirer of such assets must assume all of our obligations under the indentures or the debt securities, as appropriate. If the debt securities are convertible into or exchangeable for our other securities or securities of other entities, the person with whom we consolidate or merge or to whom we sell all of our property must make provisions for the conversion of the debt securities into securities that the holders of the debt securities would have received if they had converted the debt securities before the consolidation, merger or sale.

Events of Default Under the Indenture

Unless we provide otherwise in the prospectus supplement applicable to a particular series of debt securities, the following are events of default under the indentures with respect to any series of debt securities that we may issue:

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- if we fail to pay interest when due and payable and our failure continues for 90 days and the time for payment has not been extended or deferred;
- if we fail to pay the principal, premium or sinking fund payment, if any, when due and payable and the time for payment has not been extended or delayed;
- if we fail to observe or perform any other covenant contained in the debt securities or the indentures, other than a covenant specifically relating to another series of debt securities, and our failure continues for 90 days after we receive notice from the debenture trustee or holders of at least 25% in aggregate principal amount of the outstanding debt securities of the applicable series; and
- if specified events of bankruptcy, insolvency or reorganization occur.

If an event of default with respect to debt securities of any series occurs and is continuing, other than an event of default specified in the last bullet point above, the debenture trustee or the holders of at least 25% in aggregate principal amount of the outstanding debt securities of that series, by notice to us in writing, and to the debenture trustee if notice is given by such holders, may declare the unpaid principal of, premium, if any, and accrued interest, if any, due and payable immediately. If an event of default specified in the last bullet point above occurs with respect to us, the principal amount of and accrued interest, if any, of each issue of debt securities then outstanding shall be due and payable without any notice or other action on the part of the debenture trustee or any holder.

The holders of a majority in principal amount of the outstanding debt securities of an affected series may waive any default or event of default with respect to the series and its consequences, except defaults or events of default regarding payment of principal, premium, if any, or interest, unless we have cured the default or event of default in accordance with the indenture. Any waiver shall cure the default or event of default.

Subject to the terms of the indentures, if an event of default under an indenture shall occur and be continuing, the debenture trustee will be under no obligation to exercise any of its rights or powers under such indenture at the request or direction of any of the holders of the applicable series of debt securities, unless such holders have offered the debenture trustee reasonable indemnity. The holders of a majority in principal amount of the outstanding debt securities of any series will have the right to direct the time, method and place of conducting any proceeding for any remedy available to the debenture trustee, or exercising any trust or power conferred on the debenture trustee, with respect to the debt securities of that series, provided that:

- the direction so given by the holder is not in conflict with any law or the applicable indenture; and
- subject to its duties under the Trust Indenture Act, the debenture trustee need not take any action that might involve it in personal liability or might be unduly prejudicial to the holders not involved in the proceeding.

A holder of the debt securities of any series will have the right to institute a proceeding under the indentures or to appoint a receiver or trustee, or to seek other remedies only if:

- the holder has given written notice to the debenture trustee of a continuing event of default with respect to that series;
- the holders of at least 25% in aggregate principal amount of the outstanding debt securities of that series have made written request, and such holders have offered reasonable indemnity to the debenture trustee to institute the proceeding as trustee; and
- the debenture trustee does not institute the proceeding, and does not receive from the holders of a majority in aggregate principal amount of the outstanding debt securities of that series other conflicting directions within 90 days after the notice, request and offer.

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These limitations do not apply to a suit instituted by a holder of debt securities if we default in the payment of the principal, premium, if any, or interest on, the debt securities.

We will periodically file statements with the debenture trustee regarding our compliance with specified covenants in the indentures.

Modification of Indenture; Waiver

We and the debenture trustee may change an indenture without the consent of any holders with respect to specific matters:

- to fix any ambiguity, defect or inconsistency in the indenture;
- to comply with the provisions described above under “—Consolidation, Merger or Sale;”
- to comply with any requirements of the SEC in connection with the qualification of any indenture under the Trust Indenture Act;

- to add to, delete from or revise the conditions, limitations, and restrictions on the authorized amount, terms, or purposes of issue, authentication and delivery of debt securities, as set forth in the indenture;
- to provide for the issuance of and establish the form and terms and conditions of the debt securities of any series as provided under “—General” to establish the form of any certifications required to be furnished pursuant to the terms of the indenture or any series of debt securities, or to add to the rights of the holders of any series of debt securities;
- to evidence and provide for the acceptance of appointment hereunder by a successor trustee;
- to provide for uncertificated debt securities in addition to or in place of certificated debt securities and to make all appropriate changes for such purpose;
- to add to our covenants such new covenants, restrictions, conditions or provisions for the protection of the holders, and to make the occurrence, or the occurrence and the continuance, of a default in any such additional covenants, restrictions, conditions or provisions an event of default; or
- to change anything that does not materially adversely affect the interests of any holder of debt securities of any series.

In addition, under the indentures, the rights of holders of a series of debt securities may be changed by us and the debenture trustee with the written consent of the holders of at least a majority in aggregate principal amount of the outstanding debt securities of each series that is affected. However, unless we provide otherwise in the prospectus supplement applicable to a particular series of debt securities, we and the debenture trustee may make the following changes only with the consent of each holder of any outstanding debt securities affected:

- extending the fixed maturity of the series of debt securities;
- reducing the principal amount, reducing the rate of or extending the time of payment of interest, or reducing any premium payable upon the redemption of any debt securities; or
- reducing the percentage of debt securities, the holders of which are required to consent to any amendment, supplement, modification or waiver.

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Discharge

Each indenture provides that we can elect to be discharged from our obligations with respect to one or more series of debt securities, except for specified obligations, including obligations to:

- register the transfer or exchange of debt securities of the series;
- replace stolen, lost or mutilated debt securities of the series;
- maintain paying agencies;
- hold monies for payment in trust;
- recover excess money held by the debenture trustee;
- compensate and indemnify the debenture trustee; and
- appoint any successor trustee.

In order to exercise our rights to be discharged, we must deposit with the debenture trustee money or government obligations sufficient to pay all the principal of, any premium, if any, and interest on, the debt securities of the series on the dates payments are due.

Form, Exchange and Transfer

We will issue the debt securities of each series only in fully registered form without coupons and, unless we provide otherwise in the applicable prospectus supplement, in denominations of \$1,000 and any integral multiple thereof. The indentures provide that we may issue debt securities of a series in temporary or permanent global form and as book-entry securities that will be deposited with, or on behalf of, The Depository Trust Company (“**DTC**”) or another depository named by us and identified in a prospectus supplement with respect to that series. See “Legal Ownership of Securities” for a further description of the terms relating to any book-entry securities.

At the option of the holder, subject to the terms of the indentures and the limitations applicable to global securities described in the applicable prospectus supplement, the holder of the debt securities of any series can exchange the debt securities for other debt securities of the same series, in any authorized denomination and of like tenor and aggregate principal amount.

Subject to the terms of the indentures and the limitations applicable to global securities set forth in the applicable prospectus supplement, holders of the debt securities may present the debt securities for exchange or for registration of transfer, duly endorsed or with the form of transfer endorsed thereon duly executed if so required by us or the security registrar, at the office of the security registrar or at the office of any transfer agent designated by us for this purpose. Unless otherwise provided in the debt securities that the holder presents for transfer or exchange, we will impose no service charge for any registration of transfer or exchange, but we may require payment of any taxes or other governmental charges.

We will name in the applicable prospectus supplement the security registrar, and any transfer agent in addition to the security registrar, that we initially designate for any debt securities. We may at any time designate additional transfer agents or rescind the designation of any transfer agent or approve a change

in the office through which any transfer agent acts, except that we will be required to maintain a transfer agent in each place of payment for the debt securities of each series.

If we elect to redeem the debt securities of any series, we will not be required to:

- issue, register the transfer of, or exchange any debt securities of that series during a period beginning at the opening of business 15 days before the day of mailing of a notice of redemption of any debt

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securities that may be selected for redemption and ending at the close of business on the day of the mailing; or

- register the transfer of or exchange any debt securities so selected for redemption, in whole or in part, except the unredeemed portion of any debt securities we are redeeming in part.

Information Concerning the Debenture Trustee

The debenture trustee, other than during the occurrence and continuance of an event of default under an indenture, undertakes to perform only those duties as are specifically set forth in the applicable indenture. Upon an event of default under an indenture, the debenture trustee must use the same degree of care as a prudent person would exercise or use in the conduct of his or her own affairs. Subject to this provision, the debenture trustee is under no obligation to exercise any of the powers given it by the indentures at the request of any holder of debt securities unless it is offered reasonable security and indemnity against the costs, expenses and liabilities that it might incur.

Payment and Paying Agents

Unless we otherwise indicate in the applicable prospectus supplement, we will make payment of the interest on any debt securities on any interest payment date to the person in whose name the debt securities, or one or more predecessor securities, are registered at the close of business on the regular record date for the interest.

We will pay principal of and any premium and interest on the debt securities of a particular series at the office of the paying agents designated by us, except that unless we otherwise indicate in the applicable prospectus supplement, we will make interest payments by check that we will mail to the holder or by wire transfer to certain holders. Unless we otherwise indicate in the applicable prospectus supplement, we will designate the corporate trust office of the debenture trustee in the City of New York as our sole paying agent for payments with respect to debt securities of each series. We will name in the applicable prospectus supplement any other paying agents that we initially designate for the debt securities of a particular series. We will maintain a paying agent in each place of payment for the debt securities of a particular series.

All money we pay to a paying agent or the debenture trustee for the payment of the principal of or any premium or interest on any debt securities that remains unclaimed at the end of two years after such principal, premium or interest has become due and payable will be repaid to us, and the holder of the debt security thereafter may look only to us for payment thereof.

Governing Law

The indentures and the debt securities will be governed by and construed in accordance with the laws of the State of New York, except to the extent that the Trust Indenture Act is applicable.

Subordination of Subordinated Debt Securities

The subordinated debt securities will be unsecured and will be subordinate and junior in priority of payment to certain of our other indebtedness to the extent described in a prospectus supplement. The subordinated indenture does not limit the amount of subordinated debt securities that we may issue, nor does it limit us from issuing any other secured or unsecured debt.

LEGAL OWNERSHIP OF SECURITIES

We can issue securities in registered form or in the form of one or more global securities. We describe global securities in greater detail below. We refer to those persons who have securities registered in their own names on the books that we or any applicable trustee or depository or warrant agent maintain for this purpose as the “holders” of those securities. These persons are the legal holders of the securities. We refer to those persons who, indirectly through others, own beneficial interests in securities that are not registered in their own names, as “indirect holders”

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of those securities. As we discuss below, indirect holders are not legal holders, and investors in securities issued in book-entry form or in street name will be indirect holders.

Book-Entry Holders

We may issue securities in book-entry form only, as we will specify in the applicable prospectus supplement or free writing prospectus. This means securities may be represented by one or more global securities registered in the name of a financial institution that holds them as depository on behalf of other financial institutions that participate in the depository’s book-entry system. These participating institutions, which are referred to as participants, in turn, hold beneficial interests in the securities on behalf of themselves or their customers.

Only the person in whose name a security is registered is recognized as the holder of that security. Global securities will be registered in the name of the depositary or its participants. Consequently, for global securities, we will recognize only the depositary as the holder of the securities, and we will make all payments on the securities to the depositary. The depositary passes along the payments it receives to its participants, which in turn pass the payments along to their customers who are the beneficial owners. The depositary and its participants do so under agreements they have made with one another or with their customers; they are not obligated to do so under the terms of the securities.

As a result, investors in a global security will not own securities directly. Instead, they will own beneficial interests in a global security, through a bank, broker or other financial institution that participates in the depositary's book-entry system or holds an interest through a participant. As long as the securities are issued in global form, investors will be indirect holders, and not holders, of the securities.

Street Name Holders

We may terminate a global security or issue securities that are not issued in global form. In these cases, investors may choose to hold their securities in their own names or in "street name." Securities held by an investor in street name would be registered in the name of a bank, broker or other financial institution that the investor chooses, and the investor would hold only a beneficial interest in those securities through an account he or she maintains at that institution.

For securities held in street name, we or any applicable trustee or depositary will recognize only the intermediary banks, brokers and other financial institutions in whose names the securities are registered as the holders of those securities, and we or any such trustee or depositary will make all payments on those securities to them. These institutions pass along the payments they receive to their customers who are the beneficial owners, but only because they agree to do so in their customer agreements or because they are legally required to do so. Investors who hold securities in street name will be indirect holders, not holders, of those securities.

Legal Holders

Our obligations, as well as the obligations of any applicable trustee or third party employed by us or a trustee, run only to the legal holders of the securities. We do not have obligations to investors who hold beneficial interests in global securities, in street name or by any other indirect means. This will be the case whether an investor chooses to be an indirect holder of a security or has no choice because we are issuing the securities only in global form.

For example, once we make a payment or give a notice to the holder, we have no further responsibility for the payment or notice even if that holder is required, under agreements with depositary participants or customers or by law, to pass it along to the indirect holders but does not do so. Similarly, we may want to obtain the approval of the holders to amend an indenture, to relieve us of the consequences of a default or of our obligation to comply with a particular provision of an indenture, or for other purposes. In such an event, we would seek approval only from the legal holders, and not the indirect holders, of the securities. Whether and how the holders contact the indirect holders is up to the legal holders.

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Special Considerations for Indirect Holders

If you hold securities through a bank, broker or other financial institution, either in book-entry form because the securities are represented by one or more global securities or in street name, you should check with your own institution to find out:

- how it handles securities payments and notices;
- whether it imposes fees or charges;
- how it would handle a request for the holders' consent, if ever required;
- whether and how you can instruct it to send you securities registered in your own name so you can be a holder, if that is permitted in the future;
- how it would exercise rights under the securities if there were a default or other event triggering the need for holders to act to protect their interests; and
- if the securities are global securities, how the depositary's rules and procedures will affect these matters.

Global Securities

A global security is a security which represents one or any other number of individual securities held by a depositary. Generally, all securities represented by the same global securities will have the same terms.

Each security issued in book-entry form will be represented by a global security that we issue to, deposit with and register in the name of a financial institution or its nominee that we select. The financial institution that we select for this purpose is called the depositary. Unless we specify otherwise in the applicable prospectus supplement or a free writing prospectus, DTC will be the depositary for all global securities issued under this prospectus.

A global security may not be transferred to or registered in the name of anyone other than the depositary, its nominee or a successor depositary, unless special termination situations arise. We describe those situations below under "—Special Situations When a Global Security Will Be Terminated." As a result of these arrangements, the depositary, or its nominee, will be the sole registered owner and holder of all securities represented by a global security, and investors will be permitted to own only beneficial interests in a global security. Beneficial interests must be held by means of an account with a broker, bank or other financial institution that in turn has an account with the depositary or with another institution that does. Thus, an investor whose security is represented by a global security will not be a holder of the security, but only an indirect holder of a beneficial interest in the global security.

If the prospectus supplement or a free writing prospectus for a particular security indicates that the security will be issued as a global security, then the security will be represented by a global security at all times unless and until the global security is terminated. If termination occurs, we may issue the

securities through another book-entry clearing system or decide that the securities may no longer be held through any book-entry clearing system.

Special Considerations for Global Securities

As an indirect holder, an investor's rights relating to a global security will be governed by the account rules of the investor's financial institution and of the depository, as well as general laws relating to securities transfers. We do not recognize an indirect holder as a legal holder of securities and instead deal only with the depository that holds the global security.

If securities are issued only as a global security, an investor should be aware of the following:

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- An investor cannot cause the securities to be registered in his or her name, and cannot obtain non-global certificates for his or her interest in the securities, except in the special situations we describe below.
- An investor will be an indirect holder and must look to his or her own bank or broker for payments on the securities and protection of his or her legal rights relating to the securities, as we describe above.
- An investor may not be able to sell interests in the securities to some insurance companies and to other institutions that are required by law to own their securities in non-book-entry form.
- An investor may not be able to pledge his or her interest in the global security in circumstances where certificates representing the securities must be delivered to the lender or other beneficiary of the pledge in order for the pledge to be effective.
- The depository's policies, which may change from time to time, will govern payments, transfers, exchanges and other matters relating to an investor's interest in the global security. We and any applicable trustee have no responsibility for any aspect of the depository's actions or for its records of ownership interests in the global security. We and the trustee also do not supervise the depository in any way.
- The depository may, and we understand that DTC will, require that those who purchase and sell interests in the global security within its book-entry system use immediately available funds, and your broker or bank may require you to do so as well.
- Financial institutions that participate in the depository's book-entry system, and through which an investor holds its interest in the global security, may also have their own policies affecting payments, notices and other matters relating to the securities. There may be more than one financial intermediary in the chain of ownership for an investor. We do not monitor and are not responsible for the actions of any of those intermediaries.

Special Situations When a Global Security Will Be Terminated

In a few special situations described below, a global security will terminate and interests in it will be exchanged for physical certificates representing those interests. After that exchange, the choice of whether to hold securities directly or in street name will be up to the investor. Investors must consult their own banks or brokers to find out how to have their interests in securities transferred to their own name, so that they will be direct holders. We have described the rights of holders and street name investors above.

A global security will terminate when the following special situations occur:

- if the depository notifies us that it is unwilling, unable or no longer qualified to continue as depository for that global security and we do not appoint another institution to act as depository within 90 days;
- if we notify any applicable trustee that we wish to terminate that global security; or
- if an event of default has occurred with regard to securities represented by that global security and has not been cured or waived.

The prospectus supplement or a free writing prospectus may also list additional situations for terminating a global security that would apply only to the particular series of securities covered by the prospectus supplement or a free writing prospectus. When a global security terminates, the depository, and not we or any applicable trustee, is responsible for deciding the names of the institutions that will be the initial direct holders.

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SELLING STOCKHOLDERS

The selling stockholders may offer and sell from time to time an aggregate of 1,513,006 shares of common stock issued or issuable upon the exercise of certain (i) options previously issued in connection with renounceable rights issues on December 7, 2010 and January 20, 2011 or a private placement on September 9, 2011 and (ii) warrants previously issued in connection with private placements on September 16, 2011 and February 8, 2012. Additional information about the selling stockholders, where applicable, will be set forth in a prospectus supplement, in a post-effective amendment, or in filings we make with the SEC under the Exchange Act that are incorporated herein by reference.

PLAN OF DISTRIBUTION

We and/or the selling stockholders, if applicable, may sell the securities in one or more of the following ways (or in any combination) from time to time:

- through underwriters or dealers;
- directly to a limited number of purchasers or to a single purchaser; or
- through agents.

Each time we offer and sell securities under this prospectus, we will file a prospectus supplement. The prospectus supplement will state the terms of the offering of the securities, including:

- the name or names of any underwriters, dealers or agents;
- the purchase price of such securities and the proceeds to be received by the Company, if any;
- any underwriting discounts or agency fees and other items constituting underwriters' or agents' compensation;
- any initial public offering price;
- any discounts or concessions allowed or reallocated or paid to dealers; and
- any securities exchanges on which the securities may be listed.

Any initial public offering price and any discounts or concessions allowed or reallocated or paid to dealers may be changed from time to time.

If we and/or the selling stockholders, if applicable, use underwriters in the sale, the securities will be acquired by the underwriters for their own account and may be resold from time to time in one or more transactions, including:

- negotiated transactions;
- at a fixed public offering price or prices, which may be changed;
- at market prices prevailing at the time of sale;
- at prices related to prevailing market prices; or
- at negotiated prices.

Unless otherwise stated in a prospectus supplement, the obligations of the underwriters to purchase any

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securities will be conditioned on customary closing conditions and the underwriters will be obligated to purchase all of such series of securities, if any are purchased.

We and/or the selling stockholders, if applicable, may sell the securities through agents from time to time. The prospectus supplement will name any agent involved in the offer or sale of the securities and any commissions we pay to them. Generally, any agent will be acting on a best efforts basis for the period of its appointment.

We and/or the selling stockholders, if applicable, may authorize underwriters, dealers or agents to solicit offers by certain purchasers to purchase the securities from Sunshine Heart at the public offering price set forth in the prospectus supplement pursuant to delayed delivery contracts providing for payment and delivery on a specified date in the future. The contracts will be subject only to those conditions set forth in the prospectus supplement, and the prospectus supplement will set forth any commissions we pay for solicitation of these contracts.

Underwriters and agents may be entitled under agreements entered into with Sunshine Heart and/or the selling stockholders, if applicable, to indemnification by Sunshine Heart and/or the selling stockholders, if applicable, against certain civil liabilities, including liabilities under the Securities Act, or to contribution with respect to payments which the underwriters or agents may be required to make. Underwriters and agents may be customers of, engage in transactions with, or perform services for Sunshine Heart and its affiliates in the ordinary course of business.

Each series of securities will be a new issue of securities and will have no established trading market other than the common stock which is listed on NASDAQ. Any underwriters to whom securities are sold for public offering and sale may make a market in the securities, but such underwriters will not be obligated to do so and may discontinue any market making at any time without notice. The securities, other than the common stock, may or may not be listed on a national securities exchange.

LEGAL MATTERS

The validity of the securities offered by this prospectus will be passed upon for us by Honigman Miller Schwartz and Cohn LLP.

EXPERTS

The consolidated financial statements of Sunshine Heart, Inc. and subsidiaries appearing in Sunshine Heart, Inc.'s Annual Report (Form 10-K) for the year ended December 31, 2013, have been audited by Ernst & Young LLP, independent registered public accounting firm, as set forth in their report thereon (which contains an explanatory paragraph describing conditions that raise substantial doubt about the Company's ability to continue as a going concern as described in Note 1 to the consolidated financial statements), incorporated by reference therein, and incorporated herein by reference. Such

consolidated financial statements are incorporated herein by reference in reliance upon such report given on the authority of such firm as experts in accounting and auditing.

INCORPORATION BY REFERENCE

We “incorporate by reference” certain documents that we have filed with the SEC into this prospectus, which means that we can disclose important information to you by referring you to those documents. The information incorporated by reference is deemed to be part of this prospectus, except for any information superseded by information contained directly in this prospectus. This prospectus incorporates by reference our:

- Annual Report on Form 10-K for the year ended December 31, 2013 filed with the SEC on March 14, 2014;
- the information specifically incorporated by reference into our Annual Report on Form 10-K for the year ended December 31, 2013 from our definitive Proxy Statement for the Annual Meeting of Stockholders to be held on May 29, 2014, to be filed with the SEC within 120 days after the end of the fiscal year covered by the Annual Report on Form 10-K for the year ended December 31, 2013;

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- the description of our common stock in our registration statement on Form 10 filed with the SEC on September 30, 2011, including any amendment or reports filed for the purpose of updating such description; and
- the description of our Series A Junior Participating Preferred Stock, par value \$0.0001 per share, in our registration statement on Form 8-A filed with the SEC on June 14, 2013.

All documents we file with the SEC pursuant to Sections 13(a), 13(c), 14 or 15(d) of the Exchange Act, except as to any portion of any report or document that is not deemed filed under such provisions, (i) on or after the date of filing of the registration statement containing this prospectus and prior to the effectiveness of the registration statement and (ii) on or after the date of this prospectus until the earlier of the date on which all of the securities registered hereunder have been sold or the registration statement of which this prospectus is a part has been withdrawn, shall be deemed incorporated by reference in this prospectus and to be a part of this prospectus from the date of filing of those documents. Nothing in this prospectus shall be deemed to incorporate information furnished but not filed with the SEC pursuant to Item 2.02 or 7.01 of Form 8-K.

These documents may also be accessed on our website at www.sunshineheart.com. Information contained in, or accessible through, our website is not a part of this prospectus.

You may obtain documents incorporated by reference into this prospectus at no cost by writing or telephoning us at the following address:

Sunshine Heart, Inc.
Attention: David A. Rosa, Chief Executive Officer
12988 Valley View Road
Eden Prairie, MN 55344
Tel: (952) 345-4200

Any statements contained in a document incorporated by reference in this prospectus shall be deemed to be modified or superseded for purposes of this prospectus to the extent that a statement contained in this prospectus (or in any other subsequently filed document which also is incorporated by reference in this prospectus) modifies or supersedes such statement. Any statement so modified or superseded shall not be deemed to constitute a part of this prospectus except as so modified or superseded.

WHERE YOU CAN FIND MORE INFORMATION

We are subject to the informational requirements of the Exchange Act and file annual, quarterly and current reports, proxy statements and other information with the SEC. You may read and copy any reports, proxy statements and other information we file at the SEC’s Public Reference Room at 100 F Street, N.E., Washington, D.C. 20549. Please call the SEC at 1-800-SEC-0330 for further information on the public reference room. You may also access filed documents at the SEC’s website at www.sec.gov.

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