

**UNITED STATES
SECURITIES AND EXCHANGE COMMISSION
WASHINGTON, DC 20549**

FORM S-8

**REGISTRATION STATEMENT UNDER THE
SECURITIES ACT OF 1933**

SUNSHINE HEART, INC.

(Exact name of registrant as specified in its charter)

Delaware
(State of incorporation)

68-0533453
(IRS Employer Identification No.)

**12988 Valley View Road
Eden Prairie, MN 55344**
(Address of Principal Executive Offices) (Zip Code)

**SUNSHINE HEART, INC.
AMENDED AND RESTATED 2002 STOCK PLAN**
(Full title of the plan)

Copy to:

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

Jonathan R. Zimmerman
Faegre Baker Daniels LLP
2200 Wells Fargo Center
90 South Seventh Street
Minneapolis, MN 55402-3901
(612) 766-7000

(Name, address and telephone number, including area code, of agent for service)

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

Large accelerated filer

Accelerated filer

Non-accelerated filer (Do not check if a smaller reporting company)

Smaller reporting company

Calculation of Registration Fee

Title of securities to be registered	Amount to be registered(1)	Proposed maximum offering price per share(2)	Proposed maximum aggregate offering price	Amount of registration fee
Common Stock, par value \$0.0001 per share <i>Sunshine Heart, Inc. Amended and Restated 2002 Stock Plan</i> Issued and outstanding	120,638 shares(3)	\$ 8.67(4)	\$ 1,045,931.46	\$ 119.86

(1) Pursuant to Rule 416 under the Securities Act of 1933, as amended (the "Securities Act"), this Registration Statement includes an indeterminate number of additional shares as may be issuable as a result of a stock split, stock dividend or similar adjustment of the outstanding shares of common stock, par value \$0.0001 per share (the "Common Stock") of the Registrant.

(2) Estimated solely for the purpose of calculating the amount of the registration fee.

(3) Represents 120,638 shares of common stock subject to outstanding awards under the 2002 Stock Plan as of the August 18, 2011. To the extent outstanding awards under the 2002 Stock Plan are forfeited or lapse unexercised, the shares of common stock subject to such awards will be available for future issuance under the Company's Second Amended and Restated 2011 Equity Incentive Plan.

(4) Computed in accordance with Rule 457(h) and 457(c) of the Securities Act of 1933. Such computation is based on the average of the high and low prices as reported on the Nasdaq Capital Market on September 12, 2012.

SUNSHINE HEART, INC.

EXPLANATORY NOTE

Under the Jumpstart our Business Startups Act, we qualify as an “emerging growth company.” We therefore incorporate the scaled disclosure required of an emerging growth company in this Form S-8.

Part II—Information Required in the Registration Statement

Item 3. Incorporation of Documents by Reference

The following documents of Sunshine Heart, Inc. (the “Company”) filed with the Securities and Exchange Commission (the “SEC”) are incorporated in this Registration Statement by reference:

- (1) The final prospectus filed pursuant to Rule 424(b)(4) (Registration No. 333-182727) on August 10, 2012;
- (2) All other reports filed by the Company pursuant to Section 13(a) or 15(d) of the Securities Exchange Act of 1934, as amended (the “Exchange Act”), since February 14, 2012 (except for information furnished and not filed with the Commission in a Current Report on Form 8-K); and
- (3) The description of the Company’s Common Stock contained in the Registration Statement on Form 10 (Registration No. 001-35312) filed pursuant to Section 12(b) on September 30, 2011 and all amendments thereto.

All reports and other documents filed by the Company with the SEC pursuant to Sections 13(a), 13(c), 14 or 15(d) of the Exchange Act (except for information furnished and not filed with the Commission in a Current Report on Form 8-K) after the date of this Registration Statement and prior to the filing of a post-effective amendment which indicates that all securities offered have been sold or which deregisters all securities then remaining unsold shall be deemed to be incorporated by reference in and to be a part of this Registration Statement from the date of filing of such documents.

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

Item 4. Description of Securities

Not applicable.

Item 5. Interests of Named Experts and Counsel

Not applicable.

Item 6. Indemnification of Directors and Officers

The Company’s certificate of incorporation limits the liability of the Company’s 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 the Company or the Company’s 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 Delaware General Corporation Law; or
- transaction from which the directors derived an improper personal benefit.

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.

The Company’s bylaws provide that it will indemnify and advance expenses to its directors and officers to the fullest extent permitted by law or, if applicable, pursuant to indemnification agreements. The bylaws further provide that the Company may choose to indemnify its other employees or agents from time to time. Subject to certain exceptions and procedures, the Company’s bylaws also require it 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 the Company’s directors or officers all expenses incurred by the person in connection with such proceeding.

Section 145(g) of the Delaware General Corporation Law and the Company’s bylaws also permit it 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 the Company’s bylaws permit indemnification. The Company maintains a directors’ and officers’ liability insurance policy.

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

At present, there is no pending litigation or proceeding involving any of the Company’s directors or officers as to which indemnification is required or permitted, and the Company is 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 registrant pursuant to the foregoing provisions, or otherwise, the registrant has been advised that in the opinion of the Securities and Exchange Commission this indemnification is against public policy as expressed in the Securities Act and is therefore unenforceable.

Item 7. Exemption From Registration Claimed

Not applicable.

Item 8. Exhibits

See the Exhibit Index following the signature page.

Item 9. Undertakings

(a) The Company hereby undertakes:

(1) To file, during any period in which offers or sales are being made, a post-effective amendment to this Registration Statement:

(i) To include any prospectus required by section 10(a)(3) of the Securities Act of 1933;

(ii) To reflect in the prospectus any facts or events arising after the effective date of the Registration Statement (or the most recent post-effective amendment thereof) which, individually or in the aggregate, represent a fundamental change in the information set forth in the Registration Statement;

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

provided, however, that paragraphs (a)(1)(i) and (a)(1)(ii) do not apply if the Registration Statement is on Form S-8 and the information required to be included in a post-effective amendment by those paragraphs is contained in periodic reports filed or furnished by the Company pursuant to section 13 or section 15(d) of the Securities Exchange Act of 1934 that are incorporated by reference in the Registration Statement.

(2) That, for the purpose of determining any liability under the Securities Act of 1933, each such post-effective amendment shall be deemed to be a new registration statement relating to the securities

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offered therein, and the offering of such securities at that time shall be deemed to be the initial *bona fide* offering thereof.

(3) To remove from registration by means of a post-effective amendment any of the securities being registered which remain unsold at the termination of the offering.

(b) The Company hereby undertakes that, for purposes of determining any liability under the Securities Act of 1933, each filing of the Company's annual report pursuant to section 13(a) or section 15(d) of the Securities Exchange Act of 1934 (and, where applicable, each filing of an employee benefit plan's annual report pursuant to section 15(d) of the Securities Exchange Act of 1934) that is incorporated by reference in the Registration Statement shall be deemed to be a new registration statement relating to the securities offered therein, and the offering of such securities at that time shall be deemed to be the initial *bona fide* offering thereof.

(h) Insofar as indemnification for liabilities arising under the Securities Act of 1933 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 Securities and Exchange Commission such indemnification is against public policy as expressed in the Act and is, therefore, unenforceable. In the event that a claim for indemnification against such liabilities (other than the payment by the Company of expenses incurred or paid by a director, officer or controlling person of the Company in the successful defense of any action, suit or proceeding) is asserted by such director, officer or controlling person in connection with the securities being registered, the Company will, unless in the opinion of its counsel the matter has been settled by controlling precedent, submit to a court of appropriate jurisdiction the question whether such indemnification by it is against public policy as expressed in the Act and will be governed by the final adjudication of such issue.

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SIGNATURES

Pursuant to the requirements of the Securities Act of 1933, the Registrant certifies that it has reasonable grounds to believe that it meets all of the requirements for filing on Form S-8 and has duly caused this Registration Statement to be signed on its behalf by the undersigned, thereunto duly authorized, in the City of Eden Prairie, State of Minnesota, on September 14, 2012.

SUNSHINE HEART, INC.

By: /s/ Jeffrey Mathiesen
Name: Jeffrey Mathiesen
Title: Chief Financial Officer

We, the undersigned officers and directors of Sunshine Heart, Inc., hereby constitute David Rosa and Jeffrey Mathiesen, as the true and lawful attorneys with full power to them, and each of them singly to sign for us and in our names, in the capacities indicated below the registration statement filed

herewith and any amendments to said registration statement, and generally to do all such things in our name and behalf in our capacities as officers and directors to enable Sunshine Heart, Inc. to comply with the provisions of the Securities Act of 1933 and all requirements of the Securities and Exchange Commission, hereby ratifying and confirming our signatures as they may be signed by our said attorneys, or any of them, to said registration statement and any and all amendments thereto. Pursuant to the requirements of the Securities Act of 1933, this Registration Statement has been signed by the following persons in the capacities and on the dates indicated.

<u>Signature</u>	<u>Title</u>	<u>Date</u>
<u>/s/ David Rosa</u> David Rosa	President, Chief Executive Officer and Director (principal executive officer)	September 14, 2012
<u>/s/ Jeffrey Mathiesen</u> Jeffrey Mathiesen	Chief Financial Officer (principal financial and accounting officer)	September 14, 2012
<u>/s/ Paul Buckman</u> Paul Buckman	Director	September 14, 2012
<u>/s/ Geoffrey Brooke</u> Geoffrey Brooke	Director	September 14, 2012
<u>/s/ Nicholas Callinan</u> Nicholas Callinan	Director	September 14, 2012
<u>/s/ John Erb</u> John Erb	Director	September 14, 2012
<u>/s/ Mark Harvey</u> Mark Harvey	Director	September 14, 2012
<u>/s/ William Peters</u> William Peters	Director	September 14, 2012
<u>/s/ Donal O'Dwyer</u> Donal O'Dwyer	Director	September 14, 2012
<u>/s/ Gregory Waller</u> Gregory Waller	Director	September 14, 2012

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EXHIBIT INDEX

<u>Exhibit</u>	<u>Description</u>	<u>Manner of Filing</u>
4	Specimen Certificate representing shares of common stock of the Registrant	Incorporated by reference to Exhibit 4.1 to the Registrant's Registration Statement on Form 10 (Registration No. 001-35312), filed with the SEC on September 30, 2011
5.1	Opinion of Faegre Baker Daniels LLP	Filed Electronically
23.1	Consent of Faegre Baker Daniels LLP	Included in Exhibit 5.1
23.2	Consent of Ernst & Young LLP	Filed Electronically
24	Powers of Attorney	Included with Signatures
99.1	Sunshine Heart, Inc. Amended and Restated 2002 Stock Plan	Incorporated by reference to Exhibit 10.2 to Amendment No. 1 to the Registrant's Registration Statement on Form 10 (Registration No. 001-35312), filed with the SEC on December 16, 2011
99.2	Form of Notice of Stock Option Grant and Option Agreement for Amended and Restated 2002 Stock Plan	Incorporated by reference to Exhibit 10.3 to the Registrant's Registration Statement on Form 10 (Registration No. 001-35312), filed with the SEC on September 30, 2011

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FAEGRE BAKER DANIELS LLP

90 South Seventh Street
Minneapolis, Minnesota 55402
Telephone (612) 766-7000
Facsimile (612) 766-1600

September 14, 2012

Board of Directors
Sunshine Heart, Inc.
12988 Valley View Road
Eden Prairie, MN 55344

Re: Sunshine Heart, Inc. Registration Statement on Form S-8

Ladies and Gentlemen:

In connection with the Registration Statement on Form S-8 under the Securities Act of 1933, as amended (the "Registration Statement"), relating to the registration of 120,638 shares (the "Shares") of common stock, par value \$0.0001 per share of Sunshine Heart, Inc. (the "Company"), offered and to be offered pursuant to the Sunshine Heart, Inc. Amended and Restated 2002 Stock Plan (the "2002 Stock Plan"), we have reviewed such matters of law as we have deemed relevant hereto, and, based upon such examination and review, it is our opinion that all necessary corporate action on the part of the Company has been taken to authorize the issuance and sale of the Shares to be issued in accordance with the 2002 Stock Plan and that, when issued and sold as contemplated in the Registration Statement and in accordance with the 2002 Stock Plan, the Shares will be legally issued, fully paid and nonassessable.

In our examination, we have assumed the legal capacity of all natural persons, the genuineness of all signatures, the authenticity of all documents submitted to us as originals, the conformity to original documents of all documents submitted to us as certified or photostatic copies, and the authenticity of the originals of such latter documents. We have also assumed that the Company's board of directors, or a duly authorized committee thereof, will have approved the issuance of each award under the 2002 Stock Plan prior to the issuance thereof. As to any facts material this opinion which we did not independently establish or verify, we have relied upon oral or written statements and representations of officers and other representatives of the Company and others.

The foregoing opinions are limited to the General Corporation Law of the State of Delaware and the federal laws of the United States of America. While we are not licensed to practice law in the State of Delaware, we have reviewed applicable provisions of the Delaware General Corporation Law as we have deemed appropriate in connection with the opinion.

We consent to the filing of this opinion as an exhibit to the Registration Statement.

Very truly yours,

FAEGRE BAKER DANIELS LLP

By: /s/ Jonathan R. Zimmerman
Jonathan R. Zimmerman

Consent of Independent Registered Public Accounting Firm

Board of Directors
Sunshine Heart, Inc.

We consent to the incorporation by reference in the Registration Statement (Form S-8) pertaining to the Amended and Restated 2002 Stock Plan of Sunshine Heart, Inc. of our report dated March 23, 2012, except for the change in the presentation of comprehensive income, discussed in Note 1 to the consolidated financial statements, as to which the date is July 17, 2012, included in Amendment No. 3 to the Registration Statement (Form S-1 No. 333-182727) and the related prospectus filed with the Securities and Exchange Commission.

/s/ Ernst & Young LLP

Minneapolis, Minnesota
September 12, 2012
