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

SCHEDULE 13G

UNDER THE SECURITIES EXCHANGE ACT OF 1934

ENER-CORE, INC.

(Name of Issuer)

COMMON STOCK

(Title of Class of Securities)

29272A206

(CUSIP Number)

January 12, 2017

(Date of Event Which Requires Filing of this Statement)

Check the appropriate box to designate the rule pursuant to which this Schedule is filed:

- Rule 13d-1(b)
 Rule 13d-1(c)
 Rule 13d-1(d)

* The remainder of this cover page shall be filled out for a reporting person's initial filing on this form with respect to the subject class of securities, and for any subsequent amendment containing information which would alter disclosures provided in a prior cover page.

The information required on the remainder of this cover page shall not be deemed to be "filed" for the purpose of Section 18 of the Securities Exchange Act of 1934 ("Act") or otherwise subject to the liabilities of that section of the Act but shall be subject to all other provisions of the Act (however, see the Notes).

1. Names of Reporting Persons

Brio Capital Master Fund Ltd.

2. Check the Appropriate Box if a Member of a Group (See Instructions)

(a)

(b)

3. SEC Use Only

4. Citizenship or Place of Organization

Cayman Islands

5. Sole Voting Power

333,066 shares of common stock^{(1) (2)}

6. Shared Voting Power

0

Number of Shares
Beneficially Owned
By Each Reporting
Person With:

7. Sole Dispositive Power

333,066 shares of common stock^{(1) (2)}

8. Shared Dispositive Power

0

9. Aggregate Amount Beneficially Owned by Each Reporting Person

333,066 shares of common stock^{(1) (2)}

10. Check if the Aggregate Amount in Row (9) Excludes Certain Shares (See Instructions)

See footnote (1) below.

11. Percent of Class Represented by Amount in Row (9)

8%⁽³⁾

12. Type of Reporting Person (See Instructions)

CO

(1) Brio Capital Management LLC, is the investment manager of Brio Capital Master Fund Ltd. and has the voting and investment discretion over securities held by the Brio Capital Fund Ltd. Shaye Hirsch, in his capacity as Managing Member of Brio Capital Management LLC, makes voting and investment decisions on behalf of Brio Capital Management LLC in its capacity as the investment manager of Brio Capital Master Fund Ltd.

(2) Excludes 49,187 warrants to purchase shares of common stock on a 1:1 basis. Such warrants are currently not exercisable as Brio Capital Master Fund, Ltd. currently holds more than 4.99% of the outstanding shares of common stock of Ener-Core, Inc. and such warrants are not exercisable when the warrant holder, together with its affiliates, beneficially own in excess of 4.99% of the number of shares of common stock outstanding immediately after giving effect to such exercise.

(3) Percentage calculation is based on the number of shares of common stock outstanding, as reported in the Form S-1 ((the "Form S-1") File No. 333-215562) filed by the Issuer, and giving effect to the exercise/conversion of Reporting Persons, Warrants and Convertible Notes.

1. Names of Reporting Persons

Brio Capital Management LLC

2. Check the Appropriate Box if a Member of a Group (See Instructions)

(a)

(b)

3. SEC Use Only

4. Citizenship or Place of Organization

Delaware, United States

5. Sole Voting Power

333,066 shares of common stock⁽⁴⁾⁽⁵⁾

6. Shared Voting Power

0

Number of Shares
Beneficially Owned
By Each Reporting
Person With:

7. Sole Dispositive Power

333,066 shares of common stock⁽⁴⁾⁽⁵⁾

8. Shared Dispositive Power

0

9. Aggregate Amount Beneficially Owned by Each Reporting Person

333,066 shares of common stock⁽⁴⁾⁽⁵⁾

10. Check if the Aggregate Amount in Row (9) Excludes Certain Shares (See Instructions)

See footnote (2) below.

11. Percent of Class Represented by Amount in Row (9)

8%⁽⁶⁾

12. Type of Reporting Person (See Instructions)

CO

(4) The shares reported above are held by Brio Capital Master Fund Ltd. Brio Capital Management LLC, is the investment manager of Brio Capital Master Fund Ltd. and has the voting and investment discretion over securities held by the Brio Capital Master Fund Ltd. Shaye Hirsch, in his capacity as Managing Member of Brio Capital Management LLC, makes voting and investment decisions on behalf of Brio Capital Management LLC in its capacity as the investment manager of Brio Capital Master Fund Ltd. Brio Capital Management LLC and Shaye Hirsch disclaim beneficial ownership over the shares held by Brio Capital Master Fund Ltd., except to the extent of any pecuniary interest therein.

(5) Excludes 49,187 warrants to purchase shares of common stock on a 1:1 basis. Such warrants are currently not exercisable as Brio Master Capital Master Fund, Ltd. currently holds more than 4.99% of the outstanding shares of common stock of Ener-Core, Inc. and such warrants are not exercisable when the warrant holder, together with its affiliates, beneficially own in excess of 4.99% of the number of shares of common stock outstanding immediately after giving effect to such exercise.

(6) Percentage calculation is based on the number of shares of common stock outstanding, as reported in the Form S-1 filed by the Issuer, and giving effect to exercise/conversion of Reporting Person's, Warrants and Convertible Notes.

Item 1(a). Name of Issuer

Ener-Core, Inc. (the "Issuer")

Item 1(b). Address of the Issuer's Principal Executive Offices

940 Toledo Way
Irvine, CA 92618

Item 2(a). Names of Persons Filing

This Schedule 13G is filed jointly by:

Brio Capital Master Fund Ltd.
Brio Capital Management LLC

The foregoing persons are hereinafter sometimes collectively referred to as the "Reporting Persons." Information with respect to each Reporting Person is given solely by such Reporting Person, and no Reporting Person assumes responsibility for the accuracy or completeness of the information furnished by another Reporting Person.

Each Reporting Person expressly declares that neither the filing of this statement nor anything herein shall be construed as an admission that such Reporting Person is, for the purposes of Section 13(d) or 13(g) of the Act or any other purpose, the beneficial owner of any securities covered by this statement.

Item 2(b). Address of the Principal Business Office, or if none, Residence:

c/o Brio Capital Management LLC, 100 Merrick Road, Suite 401 W. Rockville Center, NY 11570.

Item 2(c). Citizenship

Brio Capital Master Fund Ltd. – Cayman Islands
Brio Capital Management LLC – United States

Item 2(d). Title of Class of Securities

Common Stock,

Item 2(e). CUSIP Number

29272A206

Item 3. If this statement is filed pursuant to Rules 13d-1(b), or 13d-2(b) or (c), check whether the person filing is a:

- (a) Broker or Dealer registered under Section 15 of the Exchange Act.
- (b) Bank as defined in Section 3(a)(b) or the Exchange Act.
- (c) Insurance company as defined in Section 3(a)(19) of the Exchange Act.
- (d) Investment company registered under Section 8 of the Investment Company Act.

- (e) An Investment adviser in accordance with Rule 13d-1 (b)(1)(ii)(e).
- (f) An employee benefit plan or endowment fund in accordance with Rule 13d 1(b)(1)(ii)(f).
- (g) A Parent Holding Company or control person in accordance with Rule 13d 1(b)(1)(ii)(g).
- (h) A Savings Association as defined in Section 3(b) of the Federal Deposit Insurance Act.
- (i) A Church Plan that is excluded from the definition of an investment company under Section 3 (c)(14) of the Investment Company Act.
- (j) Group, in accordance with Rule 13d-1 (b)(1)(ii)(j).

Not applicable

Item 4. Ownership

The information required by Items 4(a)-(c) is set forth in Rows 5-11 of each Cover Page and is incorporated herein by reference.

Each Reporting Person expressly declares that neither the filing of this statement nor anything herein shall be construed as an admission that such Reporting Person is, for the purposes of Section 13(d) or 13(g) of the Act or any other purpose, the beneficial owner of any securities covered by this statement.

Item 5. Ownership of Five Percent or Less of a Class

Not Applicable

Item 6. Ownership of More than Five Percent on Behalf of Another Person

Not Applicable

Item 7. Identification and Classification of the Subsidiary Which Acquired the Security Being Reported on By the Parent Holding Company or Control Person

Not Applicable

Item 8. Identification and Classification of Members of the Group

Not Applicable

Item 9. Notice of Dissolution of Group

Not Applicable

Item 10. Certification

By signing below I certify that, to the best of my knowledge and belief, the securities referred to above were not acquired and are not held for the purpose of or with the effect of changing or influencing the control of the issuer of the securities and were not acquired and are not held in connection with or as a participant in any transaction having that purpose or effect, other than activities solely in connection with a nomination under § 240.14a-11.

SIGNATURE

After reasonable inquiry and to the best of my knowledge and belief, I certify that the information set forth in this statement is true, complete and correct.

DATE: January 23, 2017

Brio Capital Master Fund Ltd.,
a Cayman Islands Exempted Company

By: Brio Capital Management LLC, its Investment
Manager

By: /s/ Shaye Hirsch
Name: Shaye Hirsch
Title: Managing Member

Brio Capital Management LLC,
a Delaware limited liability company

By: /s/ Shaye Hirsch
Name: Shaye Hirsch
Title: Managing Member

Attention: Intentional misstatements or omissions of fact constitute Federal criminal violations (See 18 U.S.C. 1001)

EXHIBIT 1

JOINT FILING AGREEMENT

Each of the undersigned agrees that (i) the statement on Schedule 13G relating to the Common Stock of Ener-Core, Inc. has been adopted and filed on behalf of each of them, (ii) all future amendments to such statement on Schedule 13G will, unless written notice to the contrary is delivered as described below, be jointly filed on behalf of each of them and (iii) the provisions of Rule 13d-1(k)(1) under the Securities Exchange Act of 1934 shall apply to each of them. This agreement may be terminated with respect to the obligations to jointly file future amendments to such statement on Schedule 13G as to any of the undersigned upon such person giving written notice thereof to each of the other persons signatory hereto, at the principal office thereof.

DATED: January 23, 2017

Brio Capital Master Fund Ltd.,
a Cayman Islands Exempted Company

By: Brio Capital Management LLC, its Investment
Manager

By: /s/ Shaye Hirsch
Name: Shaye Hirsch
Title: Managing Member

Brio Capital Management LLC,
a Delaware limited liability company

By: /s/ Shaye Hirsch
Name: Shaye Hirsch
Title: Managing Member