

SECURITIES AND EXCHANGE COMMISSION
Washington, D.C. 20549

SCHEDULE 13G

Under the Securities Exchange Act of 1934

(Amendment No.)*

CHF Solutions, Inc.

(Name of Issuer)

Common Stock, \$0.0001 par value

(Title of Class of Securities)

12542Q508

(CUSIP Number)

June 29, 2018

(Date of event which requires filing of this statement)

Check the appropriate box to designate the rule pursuant to which this Schedule 13G is filed:

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

(Page 1 of 9 Pages)

*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 the disclosures provided in a prior cover page.

The information required in 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 Empery Asset Management, LP | |
| 2 | CHECK THE APPROPRIATE BOX IF A MEMBER OF A GROUP (a) <input type="checkbox"/> (b) <input type="checkbox"/> | |
| 3 | SEC USE ONLY | |
| 4 | CITIZENSHIP OR PLACE OF ORGANIZATION Delaware | |
| NUMBER OF SHARES BENEFICIALLY OWNED BY EACH REPORTING PERSON WITH | 5 | SOLE VOTING POWER |
| | 6 | SHARED VOTING POWER 368,571 shares of Common Stock 1,273,801 shares of Common Stock issuable upon exercise of Warrants (See Item 4)* |
| | 7 | SOLE DISPOSITIVE POWER |
| | 8 | SHARED DISPOSITIVE POWER 368,571 shares of Common Stock 1,273,801 shares of Common Stock issuable upon exercise of Warrants (See Item 4)* |
| 9 | AGGREGATE AMOUNT BENEFICIALLY OWNED BY EACH REPORTING PERSON 368,571 shares of Common Stock 1,273,801 shares of Common Stock issuable upon exercise of Warrants (See Item 4)* | |
| 10 | CHECK BOX IF THE AGGREGATE AMOUNT IN ROW (9) EXCLUDES CERTAIN SHARES <input type="checkbox"/> | |
| 11 | PERCENT OF CLASS REPRESENTED BY AMOUNT IN ROW (9) 5.48% (See Item 4)* | |
| 12 | TYPE OF REPORTING PERSON PN | |

* As more fully described in Item 4, the Warrants are subject to a 4.99% blocker, and the percentage set forth in row (11) gives effect to such blockers. However, as more fully described in Item 4, the securities reported in rows (6), (8) and (9) show the number of shares of Common Stock that would be issuable upon full exercise of such reported securities and do not give effect to such blockers. Therefore, the actual number of shares of Common Stock beneficially owned by such Reporting Person, after giving effect to such blockers, is less than the number of securities reported in rows (6), (8) and (9).

| | | |
|---|---|---|
| 1 | NAMES OF REPORTING PERSONS Ryan M. Lane | |
| 2 | CHECK THE APPROPRIATE BOX IF A MEMBER OF A GROUP (a) <input type="checkbox"/> (b) <input type="checkbox"/> | |
| 3 | SEC USE ONLY | |
| 4 | CITIZENSHIP OR PLACE OF ORGANIZATION United States | |
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| 11 | PERCENT OF CLASS REPRESENTED BY AMOUNT IN ROW (9) 5.48% (See Item 4)* | |
| 12 | TYPE OF REPORTING PERSON IN | |

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| | | |
|---|---|---|
| 1 | NAMES OF REPORTING PERSONS Martin D. Hoe | |
| 2 | CHECK THE APPROPRIATE BOX IF A MEMBER OF A GROUP (a) <input type="checkbox"/> (b) <input type="checkbox"/> | |
| 3 | SEC USE ONLY | |
| 4 | CITIZENSHIP OR PLACE OF ORGANIZATION United States | |
| NUMBER OF SHARES BENEFICIALLY OWNED BY EACH REPORTING PERSON WITH | 5 | SOLE VOTING POWER |
| | 6 | SHARED VOTING POWER 368,571 shares of Common Stock 1,273,801 shares of Common Stock issuable upon exercise of Warrants (See Item 4)* |
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Item 1(a). NAME OF ISSUER:

The name of the issuer is CHF Solutions, Inc. (the "Company").

Item 1(b). ADDRESS OF ISSUER'S PRINCIPAL EXECUTIVE OFFICES:

The Company's principal executive offices are located at 12988 Valley View Road, Eden Prairie, MN 55344.

Item 2(a). NAME OF PERSON FILING:

This statement is filed by the entities and persons listed below, who are collectively referred to herein as "Reporting Persons," with respect to the shares of Common Stock (as defined in Item 2(d) below) of the Company:

Investment Manager

(i) Empery Asset Management, LP (the "Investment Manager"), with respect to the shares of Common Stock held by, and underlying the Reported Warrants (as defined below) held by, the funds to which the Investment Manager serves as investment manager (the "Empery Funds").

Reporting Individuals

(ii) Mr. Ryan M. Lane ("Mr. Lane"), with respect to the shares of Common Stock held by, and underlying the Reported Warrants held by, the Empery Funds.

(iii) Mr. Martin D. Hoe ("Mr. Hoe"), with respect to the shares of Common Stock held by, and underlying the Reported Warrants held by, the Empery Funds.

The Investment Manager serves as the investment manager to each of the Empery Funds. Each of the Mr. Lane and Mr. Hoe (the "Reporting Individuals") is a Managing Member of Empery AM GP, LLC (the "General Partner"), the general partner of the Investment Manager.

Item 2(b). ADDRESS OF PRINCIPAL BUSINESS OFFICE OR, IF NONE, RESIDENCE:

The address of the business office of each of the Reporting Persons is:

1 Rockefeller Plaza, Suite 1205
New York, New York 10020

Item 2(c). CITIZENSHIP:

Citizenship is set forth in Row 4 of the cover page for each Reporting Person hereto and is incorporated herein by reference for each such Reporting Person.

Item 2(d). TITLE OF CLASS OF SECURITIES:

Common Stock, \$0.0001 par value (the "Common Stock")

Item 2(e). CUSIP NUMBER:

12542Q508

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 Act,
- (b) Bank as defined in Section 3(a)(6) of the Act,
- (c) Insurance Company as defined in Section 3(a)(19) of the Act,
- (d) Investment Company registered under Section 8 of the Investment Company Act of 1940,
- (e) Investment Adviser registered under Section 203 of the Investment Advisers Act of 1940,
- (f) Employee Benefit Plan or Endowment Fund in accordance with Rule 13d-1(b)(1)(ii)(F),
- (g) Parent Holding Company or control person in accordance with Rule 13d-1(b)(1)(ii)(G),
- (h) Savings Association as defined in Section 3(b) of the Federal Deposit Insurance Act,
- (i) Church Plan that is excluded from the definition of an investment company under Section 3(c)(14) of the Investment Company Act of 1940,
- (j) A non-U.S. institution in accordance with Rule 13d-1(b)(1)(ii)(J);
- (k) Group, in accordance with Rule 13d-1(b)(1)(ii)(K).

If filing as a non-U.S. institution in accordance with Rule 13d-1(b)(1)(ii)(J), please specify the type of institution: _____

Item 4. OWNERSHIP.

The information as of the date of the event which requires filing of this statement required by Items 4(a) – (c) is set forth in Rows 5 – 11 of the cover page for each Reporting Person hereto and is incorporated herein by reference for each such Reporting Person. The percentage set forth in Row 11 of the cover page for each Reporting Person is based on 6,720,883 shares of Common Stock issued and outstanding as of June 29, 2018, as represented in the Company's Prospectus Supplement on Form 424(b)(5) filed with the Securities and Exchange Commission on June 29, 2018 and assumes the exercise of the Company's reported warrants (the "Reported Warrants") subject to the Blockers (as defined below).

Pursuant to the terms of the Reported Warrants, the Reporting Persons cannot exercise the Reported Warrants to the extent the Reporting Persons would beneficially own, after any such exercise, more than 4.99% of the outstanding shares of Common Stock (the "Blockers"), and the percentage set forth in Row 11 of the cover page for each Reporting Person gives effect to the Blockers. Consequently, as of the date of the event which requires the filing of this statement, the Reporting Persons were not able to exercise any of the Reported Warrants due to the Blockers.

The Investment Manager, which serves as the investment manager to the Empery Funds, may be deemed to be the beneficial owner of all shares of Common Stock held by, and underlying the Reported Warrants (subject to the Blockers) held by, the Empery Funds. Each of the Reporting Individuals, as Managing Members of the General Partner of the Investment Manager with the power to exercise investment discretion, may be deemed to be the beneficial owner of all shares of Common Stock held by, and underlying the Reported Warrants (subject to the Blockers) held by, the Empery Funds. The foregoing should not be construed in and of itself as an admission by any Reporting Person as to beneficial ownership of shares of Common Stock owned by another Reporting Person. Each of the Empery Funds and the Reporting Individuals hereby disclaims any beneficial ownership of any such shares of Common Stock.

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.

See Item 2(a) above.

Item 7. IDENTIFICATION AND CLASSIFICATION OF THE SUBSIDIARY WHICH ACQUIRED THE SECURITY BEING REPORTED ON BY THE PARENT HOLDING COMPANY.

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.

Each of the Reporting Persons hereby makes the following certification:

By signing below each Reporting Person certifies that, to the best of its 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.

SIGNATURES

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

DATED: July 5, 2018

EMPERY ASSET MANAGEMENT, LP
By: EMPERY AM GP, LLC, its General Partner

By: /s/ Ryan M. Lane

Name: Ryan M. Lane

Title: Managing Member

/s/ Ryan M. Lane

Ryan M. Lane

/s/ Martin D. Hoe

Martin D. Hoe

EXHIBIT 1

**JOINT ACQUISITION STATEMENT
PURSUANT TO RULE 13d-1(k)**

The undersigned acknowledge and agree that the foregoing statement on Schedule 13G is filed on behalf of each of the undersigned and that all subsequent amendments to this statement on Schedule 13G shall be filed on behalf of each of the undersigned without the necessity of filing additional joint acquisition statements. The undersigned acknowledge that each shall be responsible for the timely filing of such amendments, and for the completeness and accuracy of the information concerning him or it contained therein, but shall not be responsible for the completeness and accuracy of the information concerning the others, except to the extent that he or it knows or has reason to believe that such information is inaccurate.

DATED: July 5, 2018

EMPERY ASSET MANAGEMENT, LP
By: EMPERY AM GP, LLC, its General Partner

By: /s/ Ryan M. Lane
Name: Ryan M. Lane
Title: Managing Member

/s/ Ryan M. Lane
Ryan M. Lane

/s/ Martin D. Hoe
Martin D. Hoe