SECURITIES AND EXCHANGE COMMISSION

Washington, D.C. 20549

SCHEDULE 13E-3/A

(Rule 13e-100)

Transaction Statement Under Section 13(e) of the Securities Exchange Act of 1934 and Rule 13e-3 Thereunder

Rule 13e-3 Transaction Statement Under Section 13(e) of the Securities Exchange Act of 1934 (Amendment No. 2)

Pressure BioSciences, Inc.

Pressure BioSciences, Inc.

Richard T. Schumacher

(Names of Persons Filing Statement)

Common Stock and Associated Preferred Share Purchase Rights

(Title of Class of Securities)

74112E 109

(CUSIP Number of Class of Securities)

Richard T. Schumacher President and Chief Executive Officer Pressure BioSciences, Inc. 217 Perry Parkway Gaithersburg, MD 20877 (301) 208-8100 Steven R. London, Esq. Brown Rudnick Berlack Israels LLP One Financial Center Boston, MA 02111 (617) 856-8200

(Name, Address and Telephone Number of Person Authorized to Receive Notices and Communications on Behalf of Person(s) Filing Statement)

This statement is filed in connection with (check appropriate box)

a.	□ und	The filing of solicitation materials or an information statement subject to Regulation 14A, Regulation 14C, or Rule 13e-3(c) er the Securities Exchange Act of 1934.
b.		The filing of a registration statement under the Securities Act of 1933.
c.	×	A tender offer.
d.		None of the above.
copi		the following box if the soliciting materials or information statement referred to in checking box (a) are preliminary

Check the following box if the filing is a final amendment reporting the results of the transaction.

CALCULATION OF FILING FEE

Transaction Valuation*

Amount of Filing Fee

\$19,250,000

\$2,266

^{*}For purposes of calculating the filing fee only. The transaction value assumes the purchase by the registrant of 5,500,000 shares of its common stock at \$3.50 per share.

E Check the box if any part of the fee is offset as provided by Exchange Act Rule 0-11(a)(2) and identify the filing with which the offsetting fee was previously paid. Identify the previous filing by registration statement number, or the Form or Schedule and the date of its filing.

Amount Previously Paid: \$2,266 Form or Registration No.: Schedule TO-I

Filing Party: Pressure BioSciences, Inc.
Date Filed: December 27, 2004

INTRODUCTION

This Amendment No. 2 to Rule 13E-3 Transaction Statement amends and supplements the Schedule 13E-3 dated January 21, 2005, as amended and supplemented by Amendment No. 1 to Schedule 13E-3 filed on January 21, 2005 (the "Schedule 13E-3"), relating to the issuer tender offer by Pressure BioSciences, Inc., to purchase up to 5,500,000 shares of its common stock, \$0.01 par value per share (the "Shares"). Pressure BioSciences is offering to purchase these Shares at a purchase price of \$3.50 per Share, net to the seller in cash, without interest. Pressure BioSciences' tender offer is made upon the terms and subject to the conditions set forth in the Offer to Purchase dated December 27, 2004 (the "Offer to Purchase"), a copy of which is attached as Exhibit (a)(1)(A) to the Company's Schedule TO-I filed with the Commission on December 27, 2004 (the "Schedule TO-I") and in the related Letter of Transmittal (the "Letter of Transmittal"), a copy of which is attached hereto as Exhibit (a)(1)(B) to the Schedule TO-I (and which, together with the Offer to Purchase, as amended or supplemented from time to time, constitute the "Offer") and are herein incorporated by reference.

Item 4. TERMS OF THE TRANSACTION.

- (a) Material Terms.
- (1) Tender Offers.

Item 4(a)(1)(iii) of the Schedule 13E-3 is hereby amended and supplemented to include the following:

"The expiration date of the Offer has been extended from 10:00 a.m., Eastern Standard Time, on Wednesday, January 26, 2005, until 10:00 a.m., Eastern Standard Time, on Friday, February 4, 2005. Accordingly, the Offer, proration period and withdrawal rights will expire on February 4, 2005, unless we further extend the Offer.

Item 16. EXHIBITS.

- (a)(1)(A) Offer to Purchase dated December 27, 2004.(1)
- (a)(1)(B) Letter of Transmittal.(1)
- (a)(1)(C) Notice of Guaranteed Delivery of Shares of Common Stock.(1)
- (a)(1)(D) Letter to Brokers, Dealers, Commercial Banks, Trust Companies and Other Nominees.(1)
- (a)(1)(E) Letter to Clients for use by Brokers, Dealers, Commercial Banks, Trust Companies and Other Nominees.(1)
- (a)(1)(F) Guidelines for Certification of Taxpayer Identification Number on Substitute Form W-9.(1)
- (a)(5)(A) Press Release dated January 25, 2005.(2)
- (1) The foregoing exhibits were filed as exhibits with corresponding exhibit reference numbers to the Company's Schedule TO-I filed with the Commission on December 27, 2004, and are incorporated herein by this reference.
- (2) Filed as exhibit (a)(5)(A) to the Company's Amendment No. 2 to Schedule TO-1 filed with the Commission on January 25, 2005, and is incorporated herein by reference.

SIGNATURES

After due 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.

PRESSURE BIOSCIENCES, INC.

 $_{\mbox{\footnotesize By:}}~/\mbox{\footnotesize s/}$ RICHARD T. SCHUMACHER

Name: Richard T. Schumacher

Title: President and Chief Executive Officer

/s/ RICHARD T. SCHUMACHER

Richard T. Schumacher

Dated: January 25, 2005

QuickLinks

INTRODUCTION SIGNATURES