

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

SCHEDULE 13D

Under the Securities Exchange Act of 1934
(Amendment No. 2)*

AtriCure, Inc.

(Name of Issuer)

Common Stock, par value \$.001

(Title of Class of Securities)

04963C209

(CUSIP Number)

Michael D. Pinnisi
Hudson Executive Capital LP
570 Lexington Avenue
New York, NY 10022

with a copy to:
Richard M. Brand
Cadwalader, Wickersham & Taft, LLP
200 Liberty Street
New York, NY 10281
(212) 504-6000

(Name, Address and Telephone Number of Person
Authorized to Receive Notices and Communications)

October 5, 2018

(Date of Event Which Requires Filing of This Statement)

If the filing person has previously filed a statement on Schedule 13G to report the acquisition that is the subject of this Schedule 13D, and is filing this schedule because of §§240.13d-1(e), 240.13d-1(f) or 240.13d-1(g), check the following box.

Note: Schedules filed in paper format shall include a signed original and five copies of the schedule, including all exhibits. See Rule 13d-7 for other parties to whom copies are to be sent.

* 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 (the "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 PERSON Hudson Executive Capital 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	SOURCE OF FUNDS AF		
5	CHECK BOX IF DISCLOSURE OF LEGAL PROCEEDING IS REQUIRED PURSUANT TO ITEMS 2(d) or 2(e)		<input type="checkbox"/>
6	CITIZENSHIP OR PLACE OF ORGANIZATION Delaware		
NUMBER OF SHARES BENEFICIALLY OWNED BY EACH REPORTING PERSON WITH	7	SOLE VOTING POWER 0	
	8	SHARED VOTING POWER 1,882,494	
	9	SOLE DISPOSITIVE POWER 0	
	10	SHARED DISPOSITIVE POWER 1,882,494	
11	AGGREGATE AMOUNT BENEFICIALLY OWNED BY EACH REPORTING PERSON 1,882,494		
12	CHECK IF THE AGGREGATE AMOUNT IN ROW (11) EXCLUDES CERTAIN SHARES		<input type="checkbox"/>
13	PERCENT OF CLASS REPRESENTED BY AMOUNT IN ROW (11) EXCLUDES CERTAIN SHARES 4.98% ⁽¹⁾		
14	TYPE OF REPORTING PERSON PN, IA		

(1) The percentage calculations herein are based upon an aggregate of 37,812,869 shares of common stock, par value \$.001 per share, of AtriCure, Inc. outstanding as of the completion of AtriCure, Inc.'s offering of common stock on or about October 10, 2018, as reported in AtriCure, Inc.'s prospectus supplement filed pursuant to Rule 424(b)(5) on October 5, 2018.

1	NAMES OF REPORTING PERSON HEC Management GP LLC		
2	CHECK THE APPROPRIATE BOX IF A MEMBER OF A GROUP		(a) <input type="checkbox"/> (b) <input type="checkbox"/>
3	SEC USE ONLY		
4	SOURCE OF FUNDS AF		
5	CHECK BOX IF DISCLOSURE OF LEGAL PROCEEDING IS REQUIRED PURSUANT TO ITEMS 2(d) or 2(e)		<input type="checkbox"/>
6	CITIZENSHIP OR PLACE OF ORGANIZATION Delaware		
NUMBER OF SHARES BENEFICIALLY OWNED BY EACH REPORTING PERSON WITH	7	SOLE VOTING POWER 0	
	8	SHARED VOTING POWER 1,882,494	
	9	SOLE DISPOSITIVE POWER 0	
	10	SHARED DISPOSITIVE POWER 1,882,494	
11	AGGREGATE AMOUNT BENEFICIALLY OWNED BY EACH REPORTING PERSON 1,882,494		
12	CHECK IF THE AGGREGATE AMOUNT IN ROW (11) EXCLUDES CERTAIN SHARES		<input type="checkbox"/>
13	PERCENT OF CLASS REPRESENTED BY AMOUNT IN ROW (11) EXCLUDES CERTAIN SHARES 4.98%(2)		
14	TYPE OF REPORTING PERSON OO		

(2) The percentage calculations herein are based upon an aggregate of 37,812,869 shares of common stock, par value \$.001 per share, of AtriCure, Inc. outstanding as of the completion of AtriCure, Inc.'s offering of common stock on or about October 10, 2018, as reported in AtriCure, Inc.'s prospectus supplement filed pursuant to Rule 424(b)(5) on October 5, 2018.

1	NAMES OF REPORTING PERSON Douglas L. Braunstein		
2	CHECK THE APPROPRIATE BOX IF A MEMBER OF A GROUP		(a) <input type="checkbox"/> (b) <input type="checkbox"/>
3	SEC USE ONLY		
4	SOURCE OF FUNDS AF		
5	CHECK BOX IF DISCLOSURE OF LEGAL PROCEEDING IS REQUIRED PURSUANT TO ITEMS 2(d) or 2(e)		<input type="checkbox"/>
6	CITIZENSHIP OR PLACE OF ORGANIZATION United States		
NUMBER OF SHARES BENEFICIALLY OWNED BY EACH REPORTING PERSON WITH	7	SOLE VOTING POWER 0	
	8	SHARED VOTING POWER 1,882,494	
	9	SOLE DISPOSITIVE POWER 0	
	10	SHARED DISPOSITIVE POWER 1,882,494	
11	AGGREGATE AMOUNT BENEFICIALLY OWNED BY EACH REPORTING PERSON 1,882,494		
12	CHECK IF THE AGGREGATE AMOUNT IN ROW (11) EXCLUDES CERTAIN SHARES		<input type="checkbox"/>
13	PERCENT OF CLASS REPRESENTED BY AMOUNT IN ROW (11) EXCLUDES CERTAIN SHARES 4.98% ⁽³⁾		
14	TYPE OF REPORTING PERSON IN		

⁽³⁾ The percentage calculations herein are based upon an aggregate of 37,812,869 shares of common stock, par value \$.001 per share, of AtriCure, Inc. outstanding as of the completion of AtriCure, Inc.'s offering of common stock on or about October 10, 2018, as reported in AtriCure, Inc.'s prospectus supplement filed pursuant to Rule 424(b)(5) on October 5, 2018.

This amendment No. 2 (“Amendment No. 2”) to Schedule 13D relates to the Schedule 13D filed on January 24, 2017 (the “Original Schedule 13D”, as amended and supplemented through the date of this Amendment No. 2, the “Schedule 13D”) by (i) Hudson Executive Capital LP, a Delaware limited partnership (“Hudson Executive”); (ii) HEC Management GP LLC, a Delaware limited liability company (“Management GP”); and (iii) Douglas L. Braunstein, a citizen of the United States of America (together with Hudson Executive and Management GP, the “Reporting Persons”) relating to the common stock, par value \$.001 per share (the “Shares”), of AtriCure, Inc., a Delaware corporation (the “Issuer”).

Capitalized terms used but not defined in this Amendment No. 2 shall have the meaning set forth in the Schedule 13D.

Except as specifically amended by this Amendment No. 2, the Schedule 13D is unchanged.

ITEM 1. SECURITY AND ISSUER

The second paragraph of Item 1 of this Schedule 13D is amended and restated in its entirety as follows:

“The Reporting Persons (as defined below) beneficially own an aggregate of 1,882,494 Shares (the “Subject Shares”). The Subject Shares represent approximately 4.98% of the issued and outstanding Shares based on 37,812,869 Shares outstanding as of the completion of the Issuer’s offering of common stock on or about October 10, 2018, as reported in the Issuer’s prospectus supplement filed pursuant to Rule 424(b)(5) on October 5, 2018.”

ITEM 2. IDENTITY AND BACKGROUND

Item 2(b) of this Schedule 13D is amended and restated in its entirety as follows:

“(b) The principal business address of the Reporting Persons is c/o Hudson Executive Capital LP, 570 Lexington Avenue, New York, NY 10022.”

ITEM 3. SOURCE AND AMOUNT OF FUNDS OR OTHER CONSIDERATION

Item 3 of this Schedule 13D is amended and restated in its entirety as follows:

“As of the date hereof, the Reporting Persons are deemed to beneficially own the Subject Shares as detailed in Items 1 and 5. The aggregate purchase price for the 1,882,494 Subject Shares is \$29,849,123.70.

The source of funding for the transactions pursuant to which the Reporting Persons obtained beneficial ownership of the Shares was derived from the respective capital of the HEC Funds.”

ITEM 4. PURPOSE OF TRANSACTION

Item 4 of this Schedule 13D is amended and supplemented by adding the following information as the final paragraph of Item 4:

“The Issuer filed a prospectus supplement pursuant to Rule 424(b)(5) on October 5, 2018 reporting on a common stock offering of 2,500,000 Shares expected to close on or about October 10, 2018. As a result of this offering and the sale by the Reporting Persons, on behalf of Hudson Executive, of certain Shares for portfolio management purposes, the beneficial ownership of the Reporting Persons fell to below 5% of the outstanding Shares of the Issuer. The trades are set forth in Exhibit 4.”

ITEM 5. INTEREST IN SECURITIES OF THE ISSUER

Item 5(c) of this Schedule 13D is amended and restated in its entirety as follows:

“(c) Exhibit 4 filed herewith, which is incorporated by reference into this Item 5(c) as if restated in full, describes all of the transactions in the Shares that were effected in the past 60 days by the Reporting Persons for the benefit of Mr. Braunstein, Hudson Executive and Management GP. Except as set forth in Exhibit 4, no reportable transactions were effected by any Reporting Person within the last 60 days.”

Item 5(e) of this Schedule 13D is amended and restated in its entirety as follows:

“(e) The Reporting Persons ceased to be beneficial owners of more than five percent of the Shares on October 5, 2018.”

ITEM 7. MATERIAL TO BE FILED AS EXHIBITS

Item 7 of the Schedule 13D is hereby amended and supplemented by adding a reference to the following exhibit:

Exhibit 4 Schedule of transactions effected during the last 60 days

SIGNATURE

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

Date: October 9, 2018

HUDSON EXECUTIVE CAPITAL LP

By: HEC Management GP LLC, its general partner

By: /s/ Douglas L. Braunstein

Name: Douglas L. Braunstein

Title: Managing Member

HEC MANAGEMENT GP LLC

By: /s/ Douglas L. Braunstein

Name: Douglas L. Braunstein

Title: Managing Member

DOUGLAS L. BRAUNSTEIN

By: /s/ Douglas L. Braunstein

Douglas L. Braunstein

INDEX TO EXHIBITS

<u>Exhibit</u>	<u>Description</u>
Exhibit 1	Joint Filing Agreement of the Reporting Persons*
Exhibit 2	Schedule of transactions effected during the last 60 days*
Exhibit 3	Power of attorney dated January 15, 2016 by Douglas L. Braunstein*
Exhibit 4	Schedule of transactions effected during the last 60 days

*Previously Filed

EXHIBIT 4

SCHEDULE OF TRANSACTIONS EFFECTED DURING THE LAST 60 DAYS

Party Effecting Transaction	Transaction	Date	Quantity	Average Price
Hudson Executive Capital LP	Sell	10/5/2018	200,000	\$32.86
Hudson Executive Capital LP	Sell	10/8/2018	5,000	\$32.38