

If an emerging growth company, indicate by check mark if the registrant has elected not to use the extended transition period for complying with any new or revised financial accounting standards provided pursuant to Section 7(a)(2)(B) of the Securities Act. "

CALCULATION OF REGISTRATION FEE

Title of Securities to be Registered	Amount to be Registered(1)	Proposed Maximum Offering Price Per Share	Proposed Maximum Aggregate Offering Price	Amount of Registration Fee
Common Stock, \$0.001 par value per share, reserved for issuance pursuant to the Fluidigm Corporation 2011 Equity Incentive Plan	1,000,000(2)	\$9.10(3)	\$9,100,000.00	\$1,102.92
TOTAL:	1,000,000		\$9,100,000.00	\$1,102.92

Pursuant to Rule 416(a) of the Securities Act of 1933, as amended, this Registration Statement shall also cover any additional shares of the Registrant's common stock that become issuable under the Fluidigm Corporation 2011 (1)Equity Incentive Plan ("2011 Plan") by reason of any stock dividend, stock split, recapitalization or other similar transaction effected without receipt of consideration that increases the number of the Registrant's outstanding shares of common stock.

Represents 1,000,000 shares of the Registrant's common stock that were automatically added to the shares authorized for issuance under the 2011 Plan on January 1, 2019 pursuant to an "evergreen" provision contained in the 2011 Plan. Pursuant to such provision, on January 1st of each fiscal year beginning with the 2012 fiscal year, the (2) number of shares available for issuance under the 2011 Plan is automatically increased in an amount equal to the least of (i) 1,000,000 shares of the Registrant's common stock, (ii) four percent (4%) of the number of shares of the Registrant's common stock outstanding on December 31st of the preceding fiscal year, or (iii) such number of shares of the Registrant's common stock determined by the Registrant's board of directors.

Estimated in accordance with paragraphs (c) and (h) of Rule 457 solely for the purpose of calculating the total (3) registration fee. Computation based on the average of the high and low prices of the Registrant's common stock as reported on the NASDAQ Global Select Market on January 9, 2019.

FLUIDIGM CORPORATION

REGISTRATION OF ADDITIONAL SECURITIES

PURSUANT TO GENERAL INSTRUCTION E

This Registration Statement registers additional shares of the common stock of Fluidigm Corporation (the “Registrant”) to be issued pursuant to the Registrant’s 2011 Equity Incentive Plan (the “2011 Plan”). Accordingly, the contents of (i) the previous Registration Statement on Form S-8 filed by the Registrant with the Securities and Exchange Commission (the “Commission”) on February 11, 2011 (Registration No. 333-172206); (ii) the previous Registration Statement on Form S-8 filed by the Registrant with the Commission on March 26, 2012 (Registration No. 333-180363); (iii) the previous Registration Statement on Form S-8 filed by the Registrant with the Commission on March 12, 2013 (Registration No. 333-187204); (iv) the previous Registration Statement on Form S-8 filed by the Registrant with the Commission on February 21, 2014 (Registration No. 333-194084); (v) the previous Registration Statement on Form S-8 filed by the Registrant with the Commission on February 26, 2015 (Registration No. 333-202325); (vi) the previous Registration Statement on Form S-8 filed by the Registrant with the Commission on March 3, 2016 (Registration No. 333-209904), as amended on March 15, 2016; (vii) the previous Registration Statement on Form S-8 filed by the Registrant with the Commission on January 13, 2017 (Registration No. 333-215555); and (viii) the previous Registration Statement on Form S-8 filed by the Registrant with the Commission on January 16, 2018 (Registration No. 333-222561) (together, the “Previous Forms S-8”) are incorporated by reference into this Registration Statement pursuant to General Instruction E of Form S-8.

PART II

INFORMATION REQUIRED IN REGISTRATION STATEMENT

Item 3.

Incorporation of Documents by Reference.

The Registrant hereby incorporates by reference into this Registration Statement the following documents previously filed with the Commission:

(1)

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The Registrant's Annual Report on Form 10-K for the fiscal year ended December 31, 2017, filed with the Commission on March 8, 2018, including portions of the Registrant's definitive Proxy Statement on Schedule 14A, as filed with the SEC on April 27, 2018 in connection with the Registrant's 2018 annual meeting of stockholders, to the extent specifically incorporated by reference therein;

The Registrant's Quarterly Reports on Form 10-Q for the three months ended March 31, 2018, June 30, 2018, and (2) September 30, 2018 filed with the Commission on May 8, 2018, August 8, 2018, and November 6, 2018, respectively;

The Registrant's Current Reports on Form 8-K filed with the Commission on February 7, 2018, March 2, 2018, March 6, 2018, March 13, 2018, March 19, 2018, June 1, 2018, August 2, 2018 (only with respect to information (3) filed under Item 1.01, 2.03, 5.02, and Item 9.01 related thereto), September 20, 2018, October 31, 2018 and December 12, 2018, only to the extent that the items therein are specifically stated to be "filed" rather than "furnished" for the purposes of Section 18 of the Securities Exchange Act of 1934, as amended (the "Exchange Act"); and

The description of the Registrant's common stock contained in the Company's Registration Statements on Form 8-A (4) (File No. 001-34180) filed with the Commission on February 7, 2011, pursuant to Section 12(b) of the Exchange Act, including any amendment or report filed for the purpose of updating such description.

All documents filed by the Registrant pursuant to Sections 13(a), 13(c), 14 and 15(d) of the Exchange Act on or after the date of this Registration Statement and prior to the filing of a post-effective amendment to this Registration Statement that indicates that all securities offered have been sold or that deregisters all securities then remaining unsold shall be deemed to be incorporated by reference in this Registration Statement and to be part hereof from the date of filing of such documents; provided, however, that documents or information deemed to have been furnished and not filed in accordance with the rules of the Commission shall not be deemed incorporated by reference into this Registration Statement. Any statement contained in a document incorporated or deemed to be incorporated by reference herein shall be deemed to be modified or superseded for purposes of this Registration Statement to the extent that a statement contained herein or in any subsequently filed document which also is deemed to be incorporated by reference herein modifies or supersedes such statement. Any such statement so modified or superseded shall not be deemed, except as so modified or superseded, to constitute a part of this Registration Statement.

Under no circumstances will any information furnished under current items 2.02 or 7.01 of Form 8-K be deemed incorporated herein by reference unless such Form 8-K expressly provides to the contrary.

Item 8.**Exhibits.**

Exhibit Number	Description	Incorporated by Reference From Form	Incorporated by Reference From Exhibit Number	Date Filed
<u>4.1</u>	<u>Specimen Common Stock Certificate of the Registrant.</u>	<u>S-8</u>	<u>4.1</u>	<u>8/3/2017</u>
<u>4.2+</u>	<u>2011 Equity Incentive Plan of Fluidigm Corporation.</u>	<u>S-1/A</u>	<u>10.4</u>	<u>1/28/2011</u>
<u>4.3+</u>	<u>Forms of U.S. agreements under the 2011 Equity Incentive Plan.</u>	<u>SC TO-I</u>	<u>(d)(2)</u>	<u>8/23/2017</u>
<u>4.4+</u>	<u>Rules of the Fluidigm Corporation 2011 Equity Incentive Plan for Restricted Stock Unit Awards Granted to French Participants.</u>	<u>SC TO-I</u>	<u>(d)(3)</u>	<u>8/23/2017</u>
<u>4.5+</u>	<u>Rules of the Fluidigm Corporation 2011 Equity Incentive Plan for Options Granted to French Participants.</u>	<u>SC TO-I</u>	<u>(d)(4)</u>	<u>8/23/2017</u>
<u>4.6+</u>	<u>UK Sub-plan to the Fluidigm Corporation 2011 Equity Incentive Plan.</u>	<u>SC TO-I</u>	<u>(d)(5)</u>	<u>8/23/2017</u>
<u>4.7+</u>	<u>Form of Restricted Stock Unit Agreement—Non—U.S. under the 2011 Equity Incentive Plan.</u>	<u>SC TO-I</u>	<u>(d)(6)</u>	<u>8/23/2017</u>
<u>4.8+</u>	<u>Form of Stock Option Agreement—Non—U.S. under the 2011 Equity Incentive Plan.</u>	<u>SC TO-I</u>	<u>(d)(7)</u>	<u>8/23/2017</u>
<u>4.9+</u>	<u>Amendments to the Fluidigm Corporation 2011 Equity Incentive Plan, 2009 Equity Incentive Plan, and 1999 Stock Option Plan and the DVS Sciences, Inc. 2010 Equity Incentive Plan.</u>	<u>8-K</u>	<u>10.2</u>	<u>8/2/2017</u>
<u>4.10</u>	<u>Indenture, dated February 4, 2014, by and between Fluidigm Corporation and U.S. Bank National Association.</u>	<u>8-K</u>	<u>4.1</u>	<u>2/4/2014</u>
<u>4.11</u>		<u>8-K</u>	<u>4.2</u>	<u>2/4/2014</u>

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	<u>First Supplement Indenture, dated February 4, 2014, by and between Fluidigm Corporation and U.S. Bank National Association.</u>			
<u>4.12</u>	<u>Form of Global Note (included in Exhibit 4.11).</u>	<u>8-K</u>	<u>4.3</u>	<u>2/4/2014</u>
<u>4.13</u>	<u>Second Supplemental Indenture, dated March 6, 2018, between Fluidigm Corporation and U.S. Bank National Association.</u>	<u>8-K</u>	<u>4.2</u>	<u>3/6/2018</u>
<u>4.14</u>	<u>Form of Exchange Note (included in Exhibit 4.13).</u>	<u>8-K</u>	<u>4.3</u>	<u>3/6/2018</u>
<u>4.15</u>	<u>Loan and Security Agreement, dated and effective as of August 2, 2018, between Silicon Valley Bank and Fluidigm Corporation.</u>	<u>8-K</u>	<u>10.1</u>	<u>8/2/2018</u>
<u>5.1</u>	<u>Opinion of Wilson Sonsini Goodrich & Rosati, Professional Corporation.</u>	<u>Filed</u>		
<u>23.1</u>	<u>Consent of PricewaterhouseCoopers LLP, Independent Registered Public Accounting Firm.</u>	<u>Filed</u>		
<u>23.2</u>	<u>Consent of Wilson Sonsini Goodrich & Rosati, Professional Corporation (contained in Exhibit 5.1 hereto).</u>			
<u>24.1</u>	<u>Power of Attorney (contained on signature page hereto).</u>			

+ Indicates management contract or compensatory plan, contract or arrangement.

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 South San Francisco, State of California, on January 11, 2019.

Fluidigm Corporation

By: /s/ Stephen Christopher Linthwaite
Stephen Christopher Linthwaite
President and Chief Executive Officer

POWER OF ATTORNEY

KNOW ALL PERSONS BY THESE PRESENTS, that each person whose signature appears below hereby constitutes and appoints Stephen Christopher Linthwaite and Vikram Jog, and each of them, as his or her true and lawful attorneys-in-fact and agents, with full power of substitution and resubstitution, for him or her and in his or her name, place and stead, in any and all capacities (including his or her capacity as a director and/or officer of Fluidigm Corporation), to sign the Registration Statement on Form S-8 of Fluidigm Corporation, and any or all amendments thereto (including post-effective amendments), and to file the same, with all exhibits thereto, and other documents in connection therewith, with the Securities and Exchange Commission, granting unto said attorneys-in-fact and agents, and each of them, full power and authority to do and perform each and every act and thing requisite and necessary to be done in connection therewith, as fully for all intents and purposes as they or he might or could do in person, hereby and about the premises hereby ratifying and confirming all that said attorneys-in-fact and agent, proxy and agent, or his, her or their substitute or substitutes, may lawfully do or cause to be done by virtue hereof.

Pursuant to the requirements of the Securities Act of 1933, this Registration Statement on Form S-8 has been signed by the following persons in the capacities and on the dates indicated.

Signature	Title	Date
/s/ Stephen Christopher Linthwaite	President, Chief Executive Officer, and Director	January 11, 2019
Stephen Christopher Linthwaite	(Principal Executive Officer)	

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/s/ Vikram Jog Vikram Jog	Chief Financial Officer (Principal Financial and Accounting Officer)	January 11, 2019
/s/ Samuel D. Colella Samuel D. Colella	Chairman of the Board of Directors	January 11, 2019
/s/ Nicolas Barthelemy Nicolas Barthelemy	Director	January 11, 2019
/s/ Carlos Paya Carlos Paya	Director	January 11, 2019
/s/ Gerhard F. Burbach Gerhard F. Burbach	Director	January 11, 2019
/s/ Patrick S. Jones Patrick S. Jones	Director	January 11, 2019
/s/ Laura Clague Laura Clague	Director	January 11, 2019