

Boston, Massachusetts 02111

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508-263-2900

(Telephone number, including area code, of agent for service)

Indicate by check mark whether the registrant is a large accelerated filer, an accelerated filer, a non-accelerated filer, smaller reporting company, or an emerging growth company. See the definitions of “large accelerated filer,” “accelerated filer,” “smaller reporting company,” and “emerging growth company” in Rule 12b-2 of the Exchange Act. (Check One):

Large accelerated filer Accelerated filer
 Non-accelerated filer (Do not check if a smaller reporting company) Smaller reporting company
 Emerging growth company

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 13(a) of the Exchange Act.

CALCULATION OF REGISTRATION FEE

Title of securities to be registered	Amount to be registered (1)	Proposed maximum offering price per share (2)	Proposed maximum aggregate offering price (2)	Amount of registration fee (2)
Common Stock	4,500,000	\$39.045	\$175,702,500	\$21,875

Pursuant to Rule 416(c) under the Securities Act of 1933, as amended (the “Securities Act”), this registration statement shall also cover any additional shares of Common Stock issuable under the Hologic, Inc. Amended and (1) Restated 2008 Equity Incentive Plan, by reason of any stock dividend, stock split, recapitalization or other similar transaction effected without the receipt of consideration which results in an increase in the number outstanding shares of the Registrant’s Common Stock.

This estimate is made pursuant to Rule 457(h) and Rule 457(c) under the Securities Act solely for the purpose of determining the registration fee. The above calculation is based on the offering of 4,500,000 shares of Common (2) Stock at a purchase price of \$39.045 per share, which is the average of the high and low prices of the Registrant’s Common Stock as reported on the NASDAQ Global Market on April 30, 2018 which were \$39.50 and \$38.59, respectively.

EXPLANATORY NOTE

This Registration Statement on Form S-8 is being filed for the purpose of registering 4,500,000 shares (“New Shares”) of the Registrant’s Common Stock that may be issued pursuant to the Hologic, Inc. Amended and Restated 2008 Equity Incentive Plan (the “Plan”) approved by stockholders at the Registrant’s Annual Meeting of Stockholders in March 2018. Pursuant to General Instruction E to Form S-8, the contents of the prior registration statements on Form S-8 filed with the Securities and Exchange Commission (the “SEC”) on (i) May 9, 2008 (File No. 333-150796) and (ii) May 9, 2013 (File No. 333-188468) (together, the “Prior Registration Statements”) are incorporated herein by reference. The Prior Registration Statements registered 20,000,000 and 11,500,000 shares, respectively that may be issued under the Plan. With the filing of this Registration Statement, the total number of shares of Common Stock registered under the Plan, including the New Shares, is 36,000,000, which equals the total number of shares authorized for issuance under the Plan as of the date hereof. Pursuant to General Instruction E to Form S-8, the filing fee required by the Securities Act and Rule 457 is being paid only with respect to the New Shares.

PART I

INFORMATION REQUIRED IN THE SECTION 10(a) PROSPECTUS

ITEM 1. PLAN INFORMATION*

REGISTRANT INFORMATION AND EMPLOYEE PLAN ANNUAL INFORMATION*

ITEM 2.

The documents containing the information specified in Part I will be sent or given to participants in the Plan as specified by Rule 428(b)(1) under the Securities Act. In accordance with the Note under Part I of Form S-8, such documents will not be filed with the SEC either as part of this Registration Statement or as prospectuses or prospectus supplements pursuant to Rule 424 under the Securities Act. These documents and the documents incorporated by reference pursuant to Item 3 of Part II of this Registration Statement, taken together, constitute the prospectus required by Section 10(a) of the Securities Act.

PART II

INFORMATION REQUIRED IN THE REGISTRATION STATEMENT

ITEM 3. INCORPORATION OF DOCUMENTS BY REFERENCE

The following documents filed with the SEC by the Registrant pursuant to the Securities Act and the Securities Exchange Act of 1934, as amended (the “Exchange Act”), are incorporated herein by reference:

(a) The Registrant’s Annual Report on Form 10-K for the year ended September 30, 2017, filed with the SEC on November 21, 2017;

(b) All other reports filed pursuant to Section 13(a) or 15(d) of the Exchange Act since the end of the fiscal year covered by the Registrant’s Annual Report referred to in (a) above; and

(c) The description of the Registrant’s Common Stock contained in the registration statement on Form 8-A, filed with the SEC on January 31, 1990.

All documents subsequently filed by the Registrant pursuant to Sections 13(a), 13(c), 14 and 15(d) of the Securities Act (other than Current Reports on Form 8-K, or portions thereof, that were deemed to be furnished and not filed), prior to the filing of a post-effective amendment which indicates that all securities offered have been sold or which deregisters all securities then remaining unsold, shall be deemed to be incorporated by reference herein and to be a part hereof from the date of filing of such documents.

Any statement contained herein or 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 other subsequently filed document which also is incorporated or deemed to be incorporated by reference herein modifies or supersedes such statement. Any statement so modified or superseded shall not be deemed, except as so modified or superseded, to constitute part of this Registration Statement.

ITEM 4. DESCRIPTION OF SECURITIES

Not applicable.

ITEM 5. INTERESTS OF NAMED EXPERTS AND COUNSEL

Not applicable.

ITEM 6. INDEMNIFICATION OF DIRECTORS AND OFFICERS

Section 102(b)(7) of the Delaware General Corporation Law, or DGCL, allows a corporation to eliminate the personal liability of a director of a corporation to the corporation or its stockholders for monetary damages for breach of fiduciary duty as a director, except where the director breached his or her duty of loyalty to the corporation or its stockholders, failed to act in good faith, engaged in intentional misconduct or knowingly violated a law, authorized the payment of a dividend or approved a stock purchase or redemption in violation of Delaware corporate law or obtained an improper personal benefit.

Section 145 of the DGCL provides, among other things, that a corporation may indemnify any person who was or is a party or is threatened to be made a party to any threatened, pending or completed action, suit or proceeding (other than an action by or in the right of the corporation) by reason of the fact that the person is or was a director, officer, employee or agent of the corporation, or is or was serving at the corporation's request as a director, officer, employee or agent of another corporation, partnership, joint venture, trust or other enterprise, against expenses, including attorneys' fees, judgments, fines and amounts paid in settlement actually and reasonably incurred by the person in connection with the action, suit or proceeding. The power to indemnify applies (i) if such person is successful on the merits or otherwise in defense of any action, suit or proceeding or (ii) if such person acted in good faith and in a manner the person reasonably believed to be in or not opposed to the best interests of the corporation, and, with respect to any criminal action or proceeding, had no reasonable cause to believe the person's conduct was unlawful. The power to indemnify applies to actions brought by or in the right of the corporation as well, but only to the extent of defense expenses (including attorneys' fees, but excluding amounts paid in settlement) actually and reasonably incurred and not to any satisfaction of judgment or settlement of the claim itself, and with the further limitation that in such actions no indemnification shall be made in the event of any adjudication of negligence or misconduct in the performance of the person's duties to the corporation, unless a court believes that in light of all the circumstances indemnification should apply.

Section 174 of the DGCL provides, among other things, that a director who willfully and negligently approves of an unlawful payment of dividends or an unlawful stock purchase or redemption may be held liable for such actions. A director who was absent when the unlawful actions were approved or dissented at the time, may avoid liability by causing his or her dissent to such actions to be entered on the books containing the minutes of the proceedings of the board of directors at the time the action occurred or immediately after the absent director receives notice of the unlawful acts.

Article Tenth of the Registrant's Certificate of Incorporation, as amended (the "Articles"), provides that the Registrant's directors shall not be personally liable to the Registrant and its stockholders for monetary damages for breach of fiduciary duty as a director, except for liability:

- for any breach of the director's duty of loyalty to the Registrant or its stockholders;
- for acts or omissions not in good faith or that involve intentional misconduct or a knowing violation of law;
- under section 174 of the DGCL regarding unlawful dividends and stock purchases; or
- for any transaction from which the director derived an improper personal benefit.

The Registrant's Sixth Amended and Restated By laws (the "By laws") provide that the Registrant shall indemnify any person who is or was a director or officer of the Registrant to the fullest extent permitted by Delaware law. The indemnification provisions contained in the Registrant's By laws are not exclusive of any other rights to which a person may be entitled by law, agreement, vote of stockholders or disinterested directors or otherwise. Any repeal or modification of the indemnification provisions of the Registrant's By laws will not adversely affect any right or protection thereunder of any indemnitee in respect of any proceeding (regardless of when such proceeding is first threatened, commenced or completed) arising out of, or related to, any act or omission occurring prior to the time of such repeal or modification.

The Registrant has also entered into indemnification agreements with each of its directors. These agreements are intended to indemnify such directors against certain potential liabilities that may arise as a result of their service to the Registrant, and to provide for certain other protections. The Registrant may also enter into similar agreements with certain of its officers who are not also directors. The Registrant also maintains directors' and officers' liability insurance.

The foregoing summaries are necessarily subject to the complete text of the statute, the Articles, the By laws and the agreements referred to above and are qualified in their entirety by reference thereto.

ITEM 7. EXEMPTION FROM REGISTRATION CLAIMED

Not applicable.

ITEM 8. EXHIBITS

The following exhibits are filed as part of or incorporated by reference into this Registration Statement:

Exhibit No. Description

- 4.1 Certificate of Incorporation (incorporated by reference from the Registrant's Annual Report on Form 10-K, filed on November 21, 2017).
- 4.2 Sixth Amended and Restated By laws (incorporated by reference from the Registrant's Current Report on Form 8-K, filed on March 9, 2017).
- 4.3 Hologic, Inc. Amended and Restated 2008 Equity Incentive Plan (incorporated by reference from the Registrant's Current Report on Form 8-K, filed on March 15, 2018).
- 5.1 Opinion of Brown Rudnick LLP, as to legality of the securities being registered.
- 23.1 Consent of Ernst & Young LLP, independent registered public accounting firm.
- 23.2 Consent of Brown Rudnick LLP (included in Exhibit 5.1).
- 24.1 Power of Attorney (included on the signature pages to this Registration Statement).

ITEM 9. UNDERTAKINGS

The undersigned Registrant hereby undertakes:

(1) To file, during any period in which offers or sales are being made, a post-effective amendment to this Registration Statement:

(i) To include any prospectus required by Section 10(a)(3) of the Securities Act;

(ii) To reflect in the prospectus any facts or events arising after the effective date of the Registration Statement (or the most recent post-effective amendment thereof) which, individually or in the aggregate, represent a fundamental change in the information set forth in the Registration Statement. Notwithstanding the foregoing, any increase or decrease in volume of securities offered (if the total dollar value of securities offered would not exceed that which was registered) and any deviation from the low or high end of the estimated maximum offering range may be reflected in the form of prospectus filed with the SEC pursuant to Rule 424(b) if, in the aggregate, the changes in volume and price represent no more than a 20% change in the maximum aggregate offering price set forth in the "Calculation of Registration Fee" table in the effective Registration Statement;

(iii) To include any material information with respect to the plan of distribution not previously disclosed in this Registration Statement or any material change to such information in this Registration Statement;

Provided, however, that paragraphs (1)(i) and (1)(ii) do not apply if the information required to be included in a post-effective amendment by those paragraphs is contained in reports filed with or furnished to the SEC by the Registrant pursuant to Section 13 or Section 15(d) of the Exchange Act that are incorporated by reference in this Registration Statement.

(2) That, for the purpose of determining any liability under the Securities Act each such post-effective amendment shall be deemed to be a new registration statement relating to the securities offered therein, and the offering of such securities at that time shall be deemed to be the initial bona fide offering thereof.

(3) To remove from registration by means of a post-effective amendment any of the securities being registered which remain unsold at the termination of the offering.

The undersigned Registrant hereby undertakes that, for purposes of determining any liability under the Securities Act each filing of the Registrant's annual report pursuant to Section 13(a) or Section 15(d) of the Exchange Act (and, where applicable, each filing of an employee benefit plan's annual report pursuant to Section 15(d) of the Exchange Act) that is incorporated by reference in the Registration Statement shall be deemed to be a new

registration statement relating to the securities offered therein, and the offering of such securities at that time shall be deemed to be the initial bona fide offering thereof.

Insofar as indemnification for liabilities arising under the Securities Act may be permitted to directors, officers and controlling persons of the Registrant pursuant to the foregoing provisions, or otherwise, the Registrant has been advised that in the opinion of the SEC such indemnification is against public policy as expressed in the Securities Act and is, therefore, unenforceable. In the event that a claim for indemnification against such liabilities (other than the payment by the Registrant of expenses incurred or paid by a director, officer or controlling person of the Registrant in the successful defense of any action, suit or proceeding) is asserted by such director, officer or controlling person in connection with the securities being registered, the Registrant will, unless in the opinion of its counsel the matter has been settled by controlling precedent, submit to a court of appropriate jurisdiction the question whether such indemnification by it is against public policy as expressed in the Securities Act and will be governed by the final adjudication of such issue.

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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 Town of Marlborough, Commonwealth of Massachusetts, on the 2nd day of May, 2018.

HOLOGIC, INC.

By: /s/ John M. Griffin
 John M. Griffin
 General Counsel

POWER OF ATTORNEY

Each person whose signature appears below hereby severally constitutes and appoints Stephen P. MacMillan, Robert W. McMahon, and John M. Griffin, and each of them singly, with the power to act without the other, as attorneys-in-fact, each with the power of substitution, for him or her in any and all capacities, to sign any amendment to this Registration Statement and to file the same, with exhibits thereto and other documents in connection therewith, with the Securities and Exchange Commission, granting to said attorneys-in-fact, 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 to all intents and purposes as he or she might or could do in person, hereby ratifying and confirming all that said attorneys-in-fact or any of them, or their or his 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 has been signed below by the following persons in the capacities and on the date indicated.

Signature	Title	Date
/s/ Stephen P. MacMillan Stephen P. MacMillan	Chairman, President and Chief Executive Officer (Principal Executive Officer)	May 2, 2018
/s/ Robert W. McMahon Robert W. McMahon	Chief Financial Officer (Principal Financial Officer)	May 2, 2018
/s/ Karleen M. Oberton Karleen M. Oberton	Corporate Vice President and Chief Accounting Officer (Principal Accounting Officer)	May 2, 2018
/s/ Sally W. Crawford Sally W. Crawford	Director	May 2, 2018
/s/ Charles J. Dockendorff Charles J. Dockendorff	Director	May 2, 2018
/s/ Scott T. Garrett Scott T. Garrett	Director	May 2, 2018
/s/ Namal Nawana Namal Nawana	Director	May 2, 2018

/s/ Christiana Stamoulis
Christiana Stamoulis

Director

May 2, 2018

/s/ Amy M. Wendell
Amy M. Wendell

Director

May 2, 2018