Securities and Exchange Commission

Washington, D. C. 20549

FORM 11-K

x Annual Report Pursuant to Section 15(d) of The Securities Exchange Act of 1934

For the Twelve Month Period Ended December 31, 2012

OR

Transition Report Pursuant to Section 15(d) of The Securities Exchange Act of 1934

For the transition period from t

Commission file number 1-14643

A. Full title of the plan and the address of the plan if different from that of the issuer named below:

STERIS Corporation 401(k) Plan

B. Name of issuer of securities held pursuant to the plan and the address of its principal executive office:

STERIS Corporation 5960 Heisley Road Mentor, Ohio 44060

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Report of Independent Registered Public Accounting Firm

Board of Directors STERIS Corporation Mentor, Ohio

We have audited the accompanying statements of net assets available for benefits of STERIS Corporation 401(k) Plan as of December 31, 2012 and 2011, and the related statement of changes in net assets available for benefits for the year ended December 31, 2012. These financial statements are the responsibility of the Plan's management. Our responsibility is to express an opinion on these financial statements based on our audits.

We conducted our audits in accordance with the standards of the Public Company Accounting Oversight Board (United States). Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the financial statements are free of material misstatement. We were not engaged to perform an audit of the Plan's internal control over financial reporting. Our audits included consideration of internal control over financial reporting as a basis for designing audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the Plan's internal control over financial reporting. Accordingly, we express no such opinion. An audit also includes examining, on a test basis, evidence supporting the amounts and disclosures in the financial statements, assessing the accounting principles used and significant estimates made by management, and evaluating the overall financial statement presentation. We believe that our audits provide a reasonable basis for our opinion.

In our opinion, the financial statements referred to above present fairly, in all material respects, the net assets available for benefits of STERIS Corporation 401(k) Plan at December 31, 2012 and 2011, and the changes in its net assets available for benefits for the year ended December 31, 2012, in conformity with U.S. generally accepted accounting principles.

Our audits were conducted for the purpose of forming an opinion on the financial statements taken as a whole. The accompanying supplemental schedule of assets (held at end of year) as of December 31, 2012 is presented for purposes of additional analysis and is not a required part of the financial statements but is supplementary information required by the Department of Labor's Rules and Regulations for Reporting and Disclosure under the Employee Retirement Income Security Act of 1974. Such information has been subjected to the auditing procedures applied in our audits of the financial statements and, in our opinion, is fairly stated in all material respects in relation to the financial statements taken as a whole.

/s/ Ernst & Young LLP

Cleveland, Ohio June 28, 2013

Statements of Net Assets Available for Benefits

		December 31,		
	2012			2011
Assets:				
Investments, at fair value	\$	319,558,235	\$	282,180,297
Notes receivable from participants		6,721,456		6,446,220
Employer contributions receivable		499		_
Net assets available for benefits	\$	326,280,190	\$	288,626,517

See accompanying notes to the financial statements.

Statement of Changes in Net Assets Available for Benefits

Year Ended December 31, 2012

Additions:		
Investment Income:		
Net realized and unrealized appreciation in the fair value of investments	\$	28,845,046
Investment interest and dividend income		6,594,983
Interest on notes receivable from participants		281,108
Contributions:		
Participant		17,724,980
Employer		7,129,166
Rollovers		1,583,534
Total contributions		26,437,680
Total additions	·	62,158,817
Deductions:		
Benefits paid to participants	\$	24,262,740
Administrative expenses		242,404
Total deductions		24,505,144
Net increase in net assets available for benefits		37,653,673
Net assets available for benefits at:		
Beginning of year		288,626,517
End of year	\$	326,280,190

See accompanying notes to the financial statements.

Notes to Financial Statements

December 31, 2012 and 2011

1. Description of Plan

The following brief description of the STERIS Corporation 401(k) Plan (the "Plan") provides only general information. A complete description of the Plan provisions, including those relating to participation, vesting and benefits, is contained in the Plan document. Participants should refer to the Plan document for complete information regarding the Plan's provisions.

General

The Plan is a defined contribution plan administered by STERIS Corporation (the "Company," "STERIS," or "Plan Administrator"). Generally, all domestic employees of STERIS and certain participating subsidiaries who have attained the age of 18 and have completed 90 days of employment with the Company or a participating subsidiary are eligible to participate in the Plan on the first day of the payroll period that begins after satisfying these requirements. Rehired employees who were previously participants are eligible for participation immediately upon rehire. The Plan contains an automatic enrollment feature for newly eligible participants. The Plan was amended in 2010 to include a Qualified Automatic Contribution Arrangement (QACA) to provide safe harbor matching contributions and additional automatic enrollment features.

The Plan is a stock bonus plan and the portion of the Plan consisting of the STERIS Stock Fund is an employee stock ownership plan within the meaning of Section 4975(e)(7) of the Internal Revenue Code (the "Code"). The Plan provides for a cash payment option with respect to dividends paid on STERIS common shares held in the STERIS Stock Fund. The Plan also contains a cash or deferred arrangement intended to qualify under Section 401(k) of the Code. The Plan is qualified under Section 401(a) of the Code.

Vanguard Fiduciary Trust Company is the Plan trustee and The Vanguard Financial Group, Inc. is the Plan record-keeper (collectively "the Trustee"). The Plan is subject to the provisions of the Employee Retirement Income Security Act of 1974 ("ERISA").

Contributions

All contributions made by a participant are "before-tax" deferred compensation contributions or Roth 401(k) contributions.

The Plan allows participants to contribute between one and fifty percent of their compensation received during a calendar year, subject to certain limitations. The contributions for each participant are made by payroll deductions and are determined each pay period by multiplying the participant selected deferral percentage rate then in effect by his/her eligible compensation for such period.

The Plan contains a feature that allows participants to modify deferral percentages at any time.

The Company and participating subsidiaries make matching cash contributions to participants' accounts. The matching contributions are a percentage of the contributions made by each participant. For the year ended December 31, 2012, Company matching contributions were 100% of a participant's contribution (not in excess of one percent of eligible compensation), and 50% of the participant's contributions (in excess of one percent but not in excess of six percent of eligible compensation), subject to certain Plan limitations. The Company matching contribution, which is made each pay period, is approved periodically by the Company's Board of Directors. The Company has reserved the right to amend the Plan to suspend, modify or terminate its matching contributions.

The Company also may make corrective qualified nonelective contributions to the Plan on behalf of participants.

The Plan also allows the participant to contribute into the Plan balances from another qualified benefit plan (known as "rollover contributions").

Vesting

All participants are immediately vested in their contributions plus actual earnings thereon and Company matching contributions plus actual earnings thereon.

Notes to Financial Statements (continued)

Participant Accounts

A separate account is maintained for each participant in the Plan, reflecting contributions, investments, realized and unrealized investment gains and losses, loans, withdrawals, rollovers, and investment fees. The net value of each participant account is established at the close of each business day through the valuation of each fund's assets at fair value.

Participants may elect to invest contributions, including the Company contributions, in any combination of the investment funds offered by the Plan, including STERIS Corporation Common Stock. If a participant does not make an investment election with respect to 100% of the contributions made on behalf of the participant, those contributions for which no election has been made will be invested in the default investment option (Vanguard Target Date Funds), until an affirmative election of other investment options is received from the participant.

Participants can generally change their investment elections at any time. A participant may elect to have a portion or all of the balance of prior contributions together with earnings transferred from any fund in which it is invested to any other fund, subject to any transfer restrictions that the fund may impose. The STERIS Company Stock Fund will not accept transfers from other investment funds or rollover contributions. A self-directed mutual fund brokerage window option also is available to participants. This option enables participants to invest in a wide variety of mutual funds, beyond the core investment funds available to all Plan participants. Participants who elect this option are subject to additional charges; these additional charges are the responsibility of the electing participants.

Plan Withdrawals and Distributions

Upon death, disability or retirement or other termination of service, participants may receive a lump sum amount equal to the value of their account balance. Employed participants who have a specific financial hardship may withdraw all or a portion of their account balance. Additionally, participants who are age 59 1/2 or older may withdraw all or a portion of their account balance for any reason, subject to frequency limitations.

Participants Loans

Participants currently employed may borrow from their fund accounts a minimum of \$1,000 up to a maximum equal to the lesser of \$50,000 or 50 percent of their vested account balance. Loan terms generally range from 1-5 years and are secured by the balance in the participant's account. Loan terms for loans used for the purchase of a participant's primary residence can be longer than five years. The loans bear interest at a rate established by the Trustee. Principal and interest is paid through payroll deductions. Participants may have only one loan outstanding at any time and participants may take only one loan in a twelvementh period.

Company Stock Fund

Each participant who has an investment in the STERIS Company Stock Fund holds Stock Fund units. These units represent a proportionate number of Company Common Shares held in the STERIS Company Stock Fund. Each participant is entitled to exercise voting rights attributable to the Company's Common Shares that his or her stock units represent. At least thirty days prior to the time such rights are to be exercised, each participant is sent, electronically or by regular mail, a copy of the proxy solicitation materials. Participants are requested to instruct the Trustee as to how shares should be voted. If a participant does not provide the Trustee with instructions as to how shares should be voted, then such shares are voted, as provided in the Plan, proportionately in accordance with the instructions received from other participants in the Plan who are voting.

Plan Termination

The Company, by action of its Board of Directors or Compensation Committee and without approval of its shareholders, has the right under the Plan to amend, suspend, or terminate the Plan in its entirety subject to the provisions of ERISA. The Oversight Committee for the Plan also is authorized to make certain Plan amendments.

In the event of Plan termination, participants will remain 100 percent vested in their accounts.

Administrative Expenses

Costs incident to the purchase and sale of securities, such as brokerage commissions and stock transfer taxes, are paid by the respective funds. All other administrative expenses incurred in the administration of the Plan are charged against the respective funds, unless the Company elects to pay such amounts. Quarterly, an amount of \$14.25 is deducted from each participant account to pay administrative fees. The Company has elected to pay audit, legal, and consulting fees only.

Notes to Financial Statements (continued)

2. Summary of Accounting Policies

Basis of Accounting

The financial statements have been prepared in conformity with accounting principles generally accepted in the United States ("U.S. GAAP"). Plan financial statements have been prepared on the accrual basis of accounting. The following is a summary of the significant accounting policies followed by the Plan in the preparation of its financial statements.

Investment Valuation and Income Recognition

Investments held by the Plan are stated at fair value. Fair value is defined as the price that would be received to sell an asset or paid to transfer a liability in an orderly transaction between market participants at the measurement date (an exit price). See Note 6 for further discussion and disclosures related to fair value measurements.

Purchases and sales of securities are recorded on a trade-date basis. Interest income is recorded on the accrual basis. Dividends are recorded on the exdividend date.

Use of Estimates

The preparation of financial statements in conformity with U.S. GAAP requires management to make estimates and assumptions that affect the amounts reported in the financial statements and accompanying notes. Actual results could differ from those estimates.

Notes Receivable from Participants

Notes receivable from participants are measured at amortized cost, which represents unpaid principal balance plus any accrued but unpaid interest.

Payment of Benefits

Benefits are recorded when paid.

Recent Accounting Pronouncements

In May 2011, the FASB issued accounting standards update titled "Fair Value Measurements: Amendments to Achieve Common Fair Value Measurement and Disclosure Requirements in U.S. GAAP and IFRSs." The update, effective for interim or annual reporting periods beginning after December 15, 2011, provides clarification about the application of existing fair value measurement and disclosure requirements, and expands certain other disclosure requirements. The guidance was adopted and applied during 2012 and did not have a material impact on the Plan's financial condition.

3. Transactions with Parties-in-Interest

Party-in-interest transactions include the investment in the funds of the Trustee and funds maintained by entities affiliated with the Trustee and the payment of administrative expenses. Permissible Plan loans to participants are also parties-in-interest transactions.

The Plan purchased Common Shares of the Company for \$2,590,553, sold Common Shares of the Company for \$3,873,363, and received dividends on Common Shares of the Company totaling \$581,690 during the year ended December 31, 2012. These transactions qualify as party-in-interest transactions; however, they are exempt from the prohibited transactions rules under ERISA.

4. Income Tax Status

The Plan received a determination letter from the Internal Revenue Service dated May 21, 2012, stating that the Plan is qualified under Section 401(a) of the Code. This determination also meant, in effect, that the related trust was determined to be exempt from taxation. The determination was subject to a request that certain proposed amendments previously submitted to the IRS be adopted. These amendments, contained in a Fifth Amendment, were adopted in June 2012. The letter expires on

Notes to Financial Statements (continued)

January 31, 2015. Once qualified, the Plan is required to operate in conformity with the Code to maintain its qualified status. The Plan administrator believes the Plan, as amended, is qualified and the related trust is tax-exempt.

U.S. GAAP requires the Company to evaluate tax positions taken by the Plan and recognize a tax asset or liability if the Plan has taken an uncertain position that more likely than not would not be sustained upon examination by the Internal Revenue Service. The Company has analyzed the tax positions taken by the Plan, and has concluded that as of December 31, 2012, there are no uncertain positions taken or expected to be taken. The Plan is subject to routine audits by the Internal Revenue Service; however, there are currently no tax audits for any tax periods in respect of the Plan in progress. The Company believes it is no longer subject to examinations of its Forms 5500 for years prior to 2009.

5. Investments

During 2012, the Plan's investments (including investments purchased, sold, and held during the year) appreciated in value as follows:

	Year E	Ended December 31,
Net realized and unrealized appreciation in the value of investments:		
STERIS Company Stock Fund	\$	4,006,509
Mutual funds		24,838,537
Net realized and unrealized appreciation in the value of investments	\$	28,845,046

The following presents investments at December 31, 2012 and 2011 that represent 5 percent or more of the Plan's net assets available for benefits:

		December 31,		
	2	012	2011	
Vanguard Institutional Index Fund	\$ 6	\$ \$	60,383,285	
Vanguard Extended Market Index Fund Institutional Shares	4	1,872,646	36,848,379	
Vanguard Total Bond Market Index Fund Institutional Shares	3	8,381,492	36,661,703	
Vanguard Prime Money Market Fund Institutional Shares	3	33,509,118	33,683,548	
STERIS Company Stock Fund	2	27,564,221	24,800,780	
Vanguard FTSE All-World ex-US Index Fund Institutional Shares		0,179,416	18,044,844	
Vanguard Target Retirement 2020 Fund	1	9,336,975	16,584,874	
Vanguard Target Retirement 2025 Fund	1	9,505,934	14,758,934	

6. Fair Value Measurements

Fair value is defined as the price that would be received to sell an asset or paid to transfer a liability in an orderly transaction between market participants at the measurement date. Investments are classified in a hierarchy based on the inputs to valuation techniques used in measuring fair value that maximizes the use of observable inputs and minimizes the use of unobservable inputs by requiring that the most observable inputs be used when available. The three levels of the fair value hierarchy are described below:

Level 1 - Unadjusted quoted prices for identical assets or liabilities in active markets.

<u>Level 2</u> - Inputs to the valuation methodology include, quoted prices for similar assets or liabilities in active markets; quoted prices for identical or similar assets or liabilities in inactive markets; inputs other than quoted prices that are observable for the asset or liability; and inputs that are derived principally from or corroborated by observable market data by correlation or other means.

If the asset or liability has a specified (contractual) term, the Level 2 input must be observable for substantially the full term of the asset or liability.

Notes to Financial Statements (continued)

<u>Level 3</u> - Inputs to the valuation methodology are unobservable and significant to the fair value measurement. These inputs reflect management's judgment about the assumptions that a market participant would use in pricing the investment and are based on the best available information, some of which may be internally developed.

The asset's or liability's fair value measurement level within the fair value hierarchy is based on the lowest level of input that is significant to the fair value measurement.

The following describes the valuation methodologies used for assets measured at fair value.

<u>Mutual funds</u>: Money market fund holdings are classified as level two as active market quoted prices are not available and valuation of the units in the funds is inherently subject to a net asset value.

STERIS Company Common Stock fund: Valued based on the year end unit value; unit values were determined by the Trustee by dividing the fair values of the total net assets at year end by the outstanding units.

Level 1

Level 2

34,195,595

Level 3

Total

24,800,780

282,180,297

\$

The following tables set forth by level, within the fair value hierarchy, the Plan's assets measured at fair value on a recurring basis as of December 31, 2012 and 2011:

December 31, 2012					
Mutual funds					
Domestic Balanced	\$	88,808,236	\$ _	\$ _	\$ 88,808,236
Large Blend		68,186,745	_	_	68,186,745
Mid Cap		41,872,646	_	_	41,872,646
Intermediate Term Bond		38,617,868	_	_	38,617,868
Taxable Money Market		_	33,648,792	_	33,648,792
Foreign Large Blend		20,194,962	_	_	20,194,962
Other Mutual Funds		664,765			664,765
STERIS Company Stock Fund		27,564,221	_	_	27,564,221
Total assets at fair value	\$	285,909,443	\$ 33,648,792	\$ _	\$ 319,558,235
		Level 1	Level 2	Level 3	Total
December 31, 2011		Level 1	 Level 2	Level 3	 Total
December 31, 2011 Mutual funds	_	Level 1	 Level 2	Level 3	 Total
	\$	T1,245,711	\$ Level 2	\$ Level 3	\$ Total 71,245,711
Mutual funds	\$		\$ Level 2	\$ Level 3	\$
Mutual funds Domestic Balanced	\$	71,245,711	\$ Level 2 — — — — —	\$ Level 3 — — — — — —	\$ 71,245,711
Mutual funds Domestic Balanced Large Blend	\$	71,245,711 60,383,285	\$ Level 2 — — — — — — — — — — — — — — — — — —	\$ Level 3 — — — — — — — — — — — — — — — — — —	\$ 71,245,711 60,383,285
Mutual funds Domestic Balanced Large Blend Mid Cap	\$	71,245,711 60,383,285 36,848,379	\$ Level 2 — — — — — 34,195,595	\$ Level 3 — — — — — — — — — — — — — — — — — —	\$ 71,245,711 60,383,285 36,848,379

\$

7. Risks and Uncertainties

STERIS Company Stock Fund (2)

Total assets at fair value

24,800,780

247,984,702

⁽¹⁾ In the 2011 financial statements, the fair value of Taxable Money Market funds of \$34,195,595 was incorrectly classified as Level 1.

⁽²⁾ In the 2011 financial statements, the fair value of STERIS Company Stock Fund of \$24,800,780 was incorrectly classified as Level 2.

Notes to Financial Statements (continued)

The Plan invests in various investment securities. Investment securities are exposed to various risks such as interest rate, market and credit risks. Due to the level of risk associated with certain investment securities, it is at least reasonably possible that changes in the values of investment securities will occur in the near term and that such changes could materially affect participants' account balances and the amounts reported in the Statement of Net Assets Available for Renefits

Participants are responsible for researching and judging for themselves the suitability of any particular security, transaction or investment strategy and the associated inherent risk of loss.

EIN: 34-1482024 Plan Number: 001

Schedule H, Line 4i—Schedule of Assets (Held at End of Year)

December 31, 2012

Identity of Issuer, Borrower, Lessor, or Similar Party	Description of Investment Including Maturity Date, Rate of Interest, Collateral, Par, or Maturity Value	Current Value
Common Stock:	CTEDIC Common Co. 1 F v. 1	
* STERIS Corporation	STERIS Company Stock Fund - 809,284 Units	\$ 27,564,221
Mutual Funds:		
* Vanguard Extended Market Index Fund Institutional Shares	913,054 Shares	41,872,646
* Vanguard FTSE All-World ex-US Index Fund Institutional Shares	225,695 Shares	20,179,416
* Vanguard Institutional Index Fund	521,320 Shares	68,042,701
* Vanguard Prime Money Market Institutional Shares	33,509,118 Units	33,509,118
* Vanguard Target Retirement 2010 Fund	131,463 Shares	3,172,212
* Vanguard Target Retirement 2015 Fund	835,354 Shares	11,177,041
* Vanguard Target Retirement 2020 Fund	811,455 Shares	19,336,975
* Vanguard Target Retirement 2025 Fund	1,435,315 Shares	19,505,934
* Vanguard Target Retirement 2030 Fund	559,013 Shares	13,069,714
* Vanguard Target Retirement 2035 Fund	648,598 Shares	9,138,751
* Vanguard Target Retirement 2040 Fund	199,138 Shares	4,616,014
* Vanguard Target Retirement 2045 Fund	263,385 Shares	3,832,245
* Vanguard Target Retirement 2050 Fund	89,066 Shares	2,056,530
* Vanguard Target Retirement 2055 Fund	18,896 Shares	468,615
* Vanguard Target Retirement 2060 Fund	881 Shares	19,222
* Vanguard Target Retirement Income	198,112 Shares	2,414,983
* Vanguard Total Bond Market Index Fund Institutional Shares	3,460,910 Shares	38,381,492
* Vanguard brokerage option - registered investment companies	1,200,405 Units	1,200,405
		291,994,014
Other:		
	Bearing interest between 4.25% and 9.25% and maturing through	
* Participant Loans	2040	6,721,456
		\$ 326,279,691

^{*} Indicated party-in-interest to the Plan.

SIGNATURE

The Plan. Pursuant to the requirements of the Securities Exchange Act of 1934, as amended, the Administrator of the Plan has duly caused this annual report to be signed on its behalf by the undersigned hereunto duly authorized.

STERIS Corporation 401 (k) Plan

By: STERIS Corporation

Plan Administrator

By: /s/ MICHAEL J. TOKICH

Michael J. Tokich Senior Vice President and Chief Financial Officer, STERIS Corporation

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Consent of Independent Registered Public Accounting Firm

We consent to the incorporation by reference in the following Registration Statements:

Number Description 33-55976 Form S-8 Registration Statement - STERIS Corporation 401(k) Plan 333-09733 Form S-8 Registration Statement - STERIS Corporation 401(k) Plan

pertaining to the STERIS Corporation 401(k) Plan of our report dated June 28, 2013, with respect to the financial statements and schedule of the STERIS Corporation 401(k) Plan included in this Annual Report (Form 11-K) for the year ended December 31, 2012.

Form S-8 Registration Statement - STERIS Corporation 401(k) Plan

/s/ ERNST & YOUNG LLP

Cleveland, Ohio June 28, 2013

333-170884