PENTAIR plc
Form 10-Q
October 25, 2016
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UNITED STATES
SECURITIES AND EXCHANGE COMMISSION
Washington, D.C. 20549
FORM 10-Q

þ QUARTERLY REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934

For the Quarterly Period Ended September 30, 2016
OR

¨ TRANSITION REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934
Commission file number 001-11625
Pentair plc

(Exact name of Registrant as specified in its charter)

Ireland	98-1141328
(State or other jurisdiction of incorporation or organization)	(I.R.S. Employer Identification number)

P.O. Box 471, Sharp Street, Walkden, Manchester, M28 8BU United Kingdom
(Address of principal executive offices)
Registrant’s telephone number, including area code: 44-161-703-1885
Indicate by check mark whether the Registrant (1) has filed all reports required to be filed by Section 13 or 15(d) of the Securities Exchange Act of 1934 during the preceding 12 months (or for such shorter period that the Registrant was required to file such reports) and (2) has been subject to such filing requirements for the past 90 days. Yes þ No ¨
Indicate by check mark whether the registrant has submitted electronically and posted on its corporate web site, if any, every Interactive Data File required to be submitted and posted pursuant to Rule 405 of Regulation S-T (§223.405 of this chapter) during the preceding 12 months (or for such shorter period that the registrant was required to submit and post such files). Yes þ No ¨
Indicate by check mark whether the registrant is a large accelerated filer, an accelerated filer, a non-accelerated filer, or a smaller reporting company. See definitions of "large accelerated filer," "accelerated filer" and "smaller reporting company" in Rule 12b-2 of the Exchange Act. (Check one):

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

Indicate by check mark whether the Registrant is a shell company (as defined in Rule 12b-2 of the Exchange Act). Yes ¨ No þ
On September 30, 2016, 181,739,834 shares of Registrant’s common stock were outstanding.

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Pentair plc and Subsidiaries

PART I FINANCIAL INFORMATION

ITEM 1. FINANCIAL STATEMENTS
Pentair plc and Subsidiaries
Condensed Consolidated Statements of Operations and Comprehensive Income (Loss) (Unaudited)

In millions, except per-share data	Three months ended September 30, 2016	Three months ended September 26, 2015	Nine months ended September 30, 2016	Nine months ended September 26, 2015
Net sales	$1,210.7	$ 1,112.8	$3,701.9	$ 3,327.4
Cost of goods sold	769.8	718.1	2,347.9	2,161.1
Gross profit	440.9	394.7	1,354.0	1,166.3
Selling, general and administrative	228.4	217.0	728.2	649.6
Research and development	29.7	24.8	86.9	72.3
Operating income	182.8	152.9	538.9	444.4
Other (income) expense:				
Equity income of unconsolidated subsidiaries	(1.2)	(0.2)	(2.7)	(1.3)
Net interest expense	34.3	30.9	105.9	67.5
Income from continuing operations before income taxes	149.7	122.2	435.7	378.2
Provision for income taxes	32.2	27.5	93.7	85.1
Net income from continuing operations	117.5	94.7	342.0	293.1
Income from discontinued operations, net of tax	22.9	20.5	48.6	88.6
Gain (loss) from sale of discontinued operations, net of tax	0.6	—	0.6	(4.8)
Net income	$141.0	$ 115.2	$391.2	$ 376.9
Comprehensive income (loss), net of tax				
Net income	$141.0	$ 115.2	$391.2	$ 376.9
Changes in cumulative translation adjustment	34.9	(85.8)	37.1	(238.4)
Changes in market value of derivative financial instruments, net of tax of $0.7, $0.9, $1.2, and $1.3, respectively	(4.8)	(0.7)	(8.6)	(1.6)
Comprehensive income	$171.1	$ 28.7	$419.7	$ 136.9
Earnings per ordinary share				
Basic				
Continuing operations	$0.65	$ 0.53	$1.89	$ 1.63
Discontinued operations	0.13	0.11	0.27	0.46
Basic earnings per ordinary share	$0.78	$ 0.64	$2.16	$ 2.09
Diluted				
Continuing operations	$0.64	$ 0.52	1.87	1.61
Discontinued operations	0.13	0.11	0.27	0.45
Diluted earnings per ordinary share	$0.77	$ 0.63	$2.14	$ 2.06
Weighted average ordinary shares outstanding				
Basic	181.4	180.2	181.1	180.1
Diluted	183.6	182.6	183.0	182.6
Cash dividends paid per ordinary share	$0.34	$ 0.32	$1.00	$ 0.96

See accompanying notes to condensed consolidated financial statements.

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Pentair plc and Subsidiaries
Condensed Consolidated Balance Sheets (Unaudited)

In millions, except per-share data	September 30, 2016	December 31, 2015
Assets		
Current assets		
Cash and cash equivalents	$ 170.9	$ 126.3
Accounts and notes receivable, net of allowances of $44.5 and $46.1, respectively	689.5	773.2
Inventories	556.2	564.7
Other current assets	287.7	220.0
Current assets held for sale	1,042.7	1,093.4
Total current assets	2,747.0	2,777.6
Property, plant and equipment, net	547.3	539.8
Other assets		
Goodwill	4,251.7	4,259.0
Intangibles, net	1,683.0	1,747.4
Other non-current assets	162.2	161.1
Non-current assets held for sale	2,287.8	2,348.6
Total other assets	8,384.7	8,516.1
Total assets	$ 11,679.0	$ 11,833.5
Liabilities and Equity		
Current liabilities		
Accounts payable	348.2	403.8
Employee compensation and benefits	159.3	162.6
Other current liabilities	416.7	487.1
Current liabilities held for sale	363.9	433.0
Total current liabilities	1,288.1	1,486.5
Other liabilities		
Long-term debt	4,411.3	4,685.8
Pension and other post-retirement compensation and benefits	248.5	244.6
Deferred tax liabilities	636.4	670.2
Other non-current liabilities	199.5	192.4
Non-current liabilities held for sale	539.9	545.2
Total liabilities	7,323.7	7,824.7
Equity		
Ordinary shares $0.01 par value, 426.0 authorized, 181.7 and 180.5 issued at September 30, 2016 and December 31, 2015, respectively	1.8	1.8
Additional paid-in capital	2,909.1	2,860.3
Retained earnings	2,060.9	1,791.7
Accumulated other comprehensive loss	(616.5)	(645.0)
Total equity	4,355.3	4,008.8
Total liabilities and equity	$ 11,679.0	$ 11,833.5

See accompanying notes to condensed consolidated financial statements.

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Pentair plc and Subsidiaries
Condensed Consolidated Statements of Cash Flows (Unaudited)

In millions	Nine months ended September 30, 2016	September 26, 2015
Operating activities		
Net income	$391.2	$ 376.9
Income from discontinued operations, net of tax	(48.6)	(88.6)
(Gain) loss from sale of discontinued operations, net of tax	(0.6)	4.8
Adjustments to reconcile net income from continuing operations to net cash provided by (used for) operating activities of continuing operations		
Equity income of unconsolidated subsidiaries	(2.7)	(1.3)
Depreciation	64.3	59.8
Amortization	72.6	43.8
Deferred income taxes	(3.8)	(0.9)
Share-based compensation	28.7	27.5
Excess tax benefits from share-based compensation	(8.8)	(6.0)
Amortization of bridge financing fees	—	10.8
Loss (gain) on sale of assets	—	(7.7)
Changes in assets and liabilities, net of effects of business acquisitions		
Accounts and notes receivable	91.8	47.1
Inventories	14.0	(32.7)
Other current assets	(62.5)	(36.3)
Accounts payable	(56.9)	(45.6)
Employee compensation and benefits	(5.2)	(6.4)
Other current liabilities	13.6	25.8
Other non-current assets and liabilities	(27.4)	(16.5)
Net cash provided by (used for) operating activities of continuing operations	459.7	354.5
Net cash provided by (used for) operating activities of discontinued operations	97.1	41.4
Net cash provided by (used for) operating activities	556.8	395.9
Investing activities		
Capital expenditures	(94.5)	(66.3)
Proceeds from sale of property and equipment	24.1	3.6
Acquisitions, net of cash acquired	—	(1,913.0)
Other	(3.8)	—
Net cash provided by (used for) investing activities of continuing operations	(74.2)	(1,975.7)
Net cash provided by (used for) investing activities of discontinued operations	(4.3)	45.1
Net cash provided by (used for) investing activities	(78.5)	(1,930.6)
Financing activities		
Net repayments of short-term borrowings	—	(2.0)
Net (repayments) receipts of commercial paper and revolving long-term debt	(291.1)	276.5
Proceeds from long-term debt	—	1,714.8
Repayments of long-term debt	(0.7)	(4.6)
Debt issuance costs	—	(26.8)
Excess tax benefits from share-based compensation	8.8	6.0
Shares issued to employees, net of shares withheld	20.1	21.9
Repurchases of ordinary shares	—	(200.0)
Dividends paid	(181.6)	(173.3)
Net cash provided by (used for) financing activities	(444.5)	1,612.5

Effect of exchange rate changes on cash and cash equivalents	10.8	(43.3)
Change in cash and cash equivalents	44.6	34.5
Cash and cash equivalents, beginning of period	126.3	110.4
Cash and cash equivalents, end of period	$170.9	$ 144.9

See accompanying notes to condensed consolidated financial statements.

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Pentair plc and Subsidiaries
Condensed Consolidated Statements of Changes in Equity (Unaudited)

In millions	Ordinary shares		Treasury shares		Additional paid-in capital	Retained earnings	Accumulated other comprehensive loss	Total
	Number	Amount	Number	Amount				
Balance - December 31, 2015	180.5	$ 1.8	—	$ —	$2,860.3	$1,791.7	$ (645.0)	$4,008.8
Net income	—	—	—	—	—	391.2	—	391.2
Other comprehensive income, net of tax	—	—	—	—	—	—	28.5	28.5
Dividends declared	—	—	—	—	—	(122.0)	—	(122.0)
Exercise of options, net of shares tendered for payment	0.9	—	—	—	30.7	—	—	30.7
Issuance of restricted shares, net of cancellations	0.5	—	—	—	—	—	—	—
Shares surrendered by employees to pay taxes	(0.2)	—	—	—	(10.6)	—	—	(10.6)
Share-based compensation	—	—	—	—	28.7	—	—	28.7
Balance - September 30, 2016	181.7	$ 1.8	—	$ —	$2,909.1	$2,060.9	$ (616.5)	$4,355.3

In millions	Ordinary shares		Treasury shares		Additional paid-in capital	Retained earnings	Accumulated other comprehensive loss	Total
	Number	Amount	Number	Amount				
Balance - December 31, 2014	202.4	$ 2.0	(19.9)	$(1,251.9)	$4,250.0	$2,044.0	$ (380.3)	$4,663.8
Net income	—	—	—	—	—	376.9	—	376.9
Other comprehensive loss, net of tax	—	—	—	—	—	—	(240.0)	(240.0)
Dividends declared	—	—	—	—	1.5	(115.7)	—	(114.2)
Share repurchase	(3.1)	—	—	—	(200.0)	—	—	(200.0)
Cancellation of treasury shares	(19.1)	(0.2)	19.1	1,210.9	(1,210.7)	—	—	—
Exercise of options, net of shares tendered for payment	0.1	—	0.7	34.6	(7.9)	—	—	26.7
Issuance of restricted shares, net of cancellations	—	—	0.2	9.5	(9.5)	—	—	—
Shares surrendered by employees to pay taxes	—	—	(0.1)	(3.1)	(1.7)	—	—	(4.8)
Share-based compensation	—	—	—	—	27.5	—	—	27.5
Balance - September 26, 2015	180.3	$ 1.8	—	$—	$2,849.2	$2,305.2	$ (620.3)	$4,535.9

See accompanying notes to condensed consolidated financial statements.

1.Basis of Presentation and Responsibility for Interim Financial Statements

The accompanying unaudited condensed consolidated financial statements of Pentair plc (formerly Pentair Ltd.) and its subsidiaries ("we," "us," "our," "Pentair," or "the Company") have been prepared following the requirements of the U.S. Securities and Exchange Commission ("SEC") for interim reporting. As permitted under those rules, certain footnotes or other financial information that are normally required by accounting principles generally accepted in the United States of America can be condensed or omitted.

We are responsible for the unaudited financial statements included in this document. The financial statements include all normal recurring adjustments that are considered necessary for the fair presentation of our financial position and operating results. As these are condensed financial statements, one should also read our consolidated financial statements and notes thereto, which are included in our Annual Report on Form 10-K for the year ended December 31, 2015.

Revenues, expenses, cash flows, assets and liabilities can and do vary during each quarter of the year. Therefore, the results and trends in these interim financial statements may not be indicative of those for a full year.

Our fiscal year ends on December 31. Beginning in the first quarter of 2016, we report our interim quarterly periods on a calendar quarter basis. Prior to the first quarter of 2016, we reported our interim quarterly periods on a 13-week basis ending on a Saturday.

New accounting standards

In March 2016, the Financial Accounting Standards Board ("FASB") issued a new accounting standard that will change certain aspects of accounting for share-based payments to employees, including the accounting for income taxes, forfeitures and statutory withholding requirements, as well as classification in the statement of cash flows. The new standard is effective for fiscal years beginning after December 15, 2016, including interim periods within that reporting period, and early adoption is permitted. We have not yet determined the impact this standard will have on our financial condition or results of operations.

In February 2016, the FASB issued new accounting requirements regarding accounting for leases, which requires an entity to recognize both assets and liabilities arising from financing and operating leases, along with additional qualitative and quantitative disclosures. The new standard is effective for fiscal years beginning after December 15, 2018, including interim periods within that reporting period, and early adoption is permitted. We have not yet determined the potential effects on our financial condition or results of operations.

In November 2015, the FASB issued a new accounting standard which clarifies and simplifies the balance sheet classification of deferred tax assets and liabilities. Under the new standard, all deferred tax assets and liabilities are required to be classified as non-current in a classified balance sheet. The new standard is effective for fiscal years beginning after December 15, 2016, including interim periods within that reporting period, and early adoption is permitted. We have not yet determined the impact this standard will have on our financial condition.

In April 2015, the FASB issued a new accounting standard which requires that debt issuance costs related to a recognized debt liability be presented in the balance sheet as a direct deduction from the carrying amount of that debt liability. The new standard was effective for annual and interim periods beginning after December 15, 2015. We adopted the new standard during the first quarter of 2016 and, as a result, reclassified unamortized debt issuance costs of $23.5 million from Other current assets and Other non-current assets to Long-term debt on the Condensed Consolidated Balance Sheet as of December 31, 2015.

In May 2014, the FASB issued new accounting requirements for the recognition of revenue from contracts with customers. The new requirements include additional disclosure about the nature, amount, timing and uncertainty of revenue and cash flows arising from customer contracts, including significant judgments and changes in judgments and assets recognized from costs incurred to obtain or fulfill a contract. The requirements are effective for annual reporting periods beginning after December 15, 2017, including interim periods within that reporting period. Early adoption is permitted for reporting periods beginning after December 15, 2016. We have not yet determined the potential effects on our financial condition or results of operations.

2. Acquisitions

On September 18, 2015, we acquired, as part of Technical Solutions, all of the outstanding shares of capital stock of ERICO Global Company ("ERICO") for approximately $1.8 billion (the "ERICO Acquisition"). ERICO is a leading global manufacturer and marketer of engineered electrical and fastening products for electrical, mechanical and civil applications.

ERICO has employees in 30 countries across the world with recognized brands including CADDY fixing, fastening and support products; ERICO electrical grounding, bonding and connectivity products and LENTON engineered systems.

The purchase price has been allocated based on the fair value of assets acquired and liabilities assumed at the date of the ERICO Acquisition. The purchase price allocation was completed in the third quarter of 2016.

The following table summarizes the fair values of the assets acquired and liabilities assumed in the ERICO Acquisition as previously reported at December 31, 2015 and as revised at September 30, 2016:

In millions	As Previously Reported	As Revised
Cash	$ 11.8	$ 11.8
Accounts receivable	75.9	75.9
Inventories	102.4	101.8
Other current assets	2.9	2.8
Property, plant and equipment	53.4	53.1
Identifiable intangible assets	1,033.8	1,033.8
Goodwill	1,061.9	1,031.0
Current liabilities	(97.2)	(94.7)
Deferred income taxes, including current	(418.8)	(382.3)
Other liabilities	(8.0)	(15.1)
Purchase price	$ 1,818.1	$ 1,818.1

The excess of purchase price over tangible net assets and identified intangible assets acquired has been allocated to goodwill in the amount of $1,031.0 million, none of which is expected to be deductible for income tax purposes. Identifiable intangible assets acquired as part of the ERICO Acquisition include $228.4 million of indefinite-lived trade name intangible assets and $805.4 million of definite-lived customer relationships with an estimated useful life of 21 years.

The following unaudited pro forma consolidated condensed financial results of operations are presented as if the ERICO Acquisition was consummated on January 1, 2014:

	Three months ended	Nine months ended
In millions, except per-share data	September 26, 2015	September 26, 2015
Pro forma net sales	$ 1,231.6	$ 3,713.6
Pro forma net income from continuing operations	122.9	334.3
Pro forma earnings per ordinary share - continuing operations		
Basic	$ 0.68	$ 1.86
Diluted	0.67	1.83

The pro forma condensed consolidated financial information has been prepared for comparative purposes only and includes certain adjustments, as noted above. The adjustments are estimates based on currently available information and actual amounts may differ materially from these estimates. They do not reflect the effect of costs or synergies that would have been expected to result from the integration of the ERICO Acquisition. The pro forma information does not purport to be indicative of the results of operations that actually would have resulted had the ERICO Acquisition occurred on January 1, 2014.

In April 2015, we acquired, as part of Technical Solutions, all of the outstanding shares of capital stock of Nuheat Industries Limited ("Nuheat") for $96.0 million in cash (120.5 million Canadian dollars translated at the April 2, 2015 exchange rate), net of cash acquired. In November 2015, cash of $0.9 million (1.2 million Canadian dollars translated at the average monthly exchange rate) was paid to Nuheat in settlement of a working capital adjustment. Based in Canada, Nuheat is a leading manufacturer of electric floor heating systems that are distributed across North America. Total goodwill recorded as part of the purchase allocation was $43.2 million, none of which is tax deductible. Identified intangible assets acquired consisted of definite-lived customer relationships of $53.3 million, with an estimated useful life of 17 years. The pro forma impact of this acquisition was deemed to not be material.

3. Discontinued Operations

On August 18, 2016, we entered into a Share Purchase Agreement (the "Purchase Agreement") to sell our Valves & Controls business to Emerson Electric Co. for a purchase price of $3.15 billion in cash, subject to certain customary adjustments. We expect the sale to close in late 2016 or early 2017, subject to customary regulatory approvals and closing conditions.

We have concluded, as a result of the signing of the Purchase Agreement, that the Valves & Controls business has met the criteria to be held for sale. The results of the Valves & Controls business have been presented as discontinued operations and the related assets and liabilities have been reclassified as held for sale for all periods presented. The Valves & Controls business was previously disclosed as a stand-alone reporting segment.

In addition, during the first and second quarters of 2015, we sold the remaining portions of the Water Transport business in Australia and received cash proceeds of $59.0 million. The results of the Water Transport business have been presented as discontinued operations.

Transaction costs of $15.6 million related to the sale of Valves & Controls were incurred during the nine months ended September 30, 2016.

Operating results of discontinued operations are summarized below:

In millions	Three months ended September 30, 2016	Three months ended September 26, 2015	Nine months ended September 30, 2016	Nine months ended September 26, 2015
Net sales	$410.9	$ 440.9	$1,231.6	$ 1,385.2
Cost of goods sold	287.6	295.6	886.7	934.6
Gross profit	123.3	145.3	344.9	450.6
Selling, general and administrative	87.4	113.3	267.6	316.3
Research and development	4.3	5.1	14.2	16.7
Operating income	$31.6	$ 26.9	$63.1	$ 117.6
Income from discontinued operations before income taxes	$32.0	$ 27.4	$63.6	$ 117.6
Provision for income taxes	9.1	6.9	15.0	29.0
Income from discontinued operations, net of tax	$22.9	$ 20.5	$48.6	$ 88.6
Gain (loss) from sale of discontinued operations before income taxes	$0.6	$ —	$0.6	$ (4.8)
Provision for income taxes	—	—	—	—
Gain (loss) from sale of discontinued operations, net of tax	$0.6	$ —	$0.6	$ (4.8)

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The carrying amounts of major classes of assets and liabilities that were classified as held for sale on the Condensed Consolidated Balance Sheets were as follows:

In millions	September 30, 2016	December 31, 2015
Accounts and notes receivable, net	$ 382.8	$ 394.5
Inventories	562.1	609.6
Other current assets	97.8	89.3
Current assets held for sale	$ 1,042.7	$ 1,093.4
Property, plant and equipment, net	$ 381.5	$ 403.1
Goodwill	996.4	996.4
Intangibles, net	708.7	742.7
Asbestos-related insurance receivable	109.3	111.0
Other non-current assets	91.9	95.4
Non-current assets held for sale	$ 2,287.8	$ 2,348.6
Accounts payable	$ 145.0	$ 175.0
Employee compensation and benefits	58.5	100.3
Other current liabilities	160.4	157.7
Current liabilities held for sale	$ 363.9	$ 433.0
Pension and other post-retirement compensation and benefits	$ 36.3	$ 42.6
Deferred tax liabilities	174.3	173.9
Asbestos-related liabilities	231.2	237.9
Other non-current liabilities	98.1	90.8
Non-current liabilities held for sale	$ 539.9	$ 545.2

4. Share Plans

Total share-based compensation expense for the three and nine months ended September 30, 2016 and September 26, 2015 was as follows:

In millions	Three months ended		Nine months ended	
	September 30, 2016	September 26, 2015	September 30, 2016	September 26, 2015
Restricted stock units	$ 3.6	$ 5.4	$ 14.2	$ 17.9
Stock options	1.8	2.7	9.0	9.6
Performance share units	1.0	—	5.5	—
Total share-based compensation expense	$ 6.4	$ 8.1	$ 28.7	$ 27.5

In the first quarter of 2016, we issued our annual share-based compensation grants under the Pentair plc 2012 Stock and Incentive Plan to eligible employees. The total number of awards issued was approximately 1.7 million, of which 1.1 million were stock options, 0.3 million were restricted stock units and 0.3 million were performance share units. The weighted-average grant date fair value of the stock options, restricted stock units and performance share units issued was $10.23, $49.21 and $49.21, respectively.

We estimated the fair value of each stock option award issued in the annual share-based compensation grant using a Black-Scholes option pricing model, modified for dividends and using the following assumptions:

	2016 Annual Grant
Risk-free interest rate	1.57 %
Expected dividend yield	2.47 %
Expected share price volatility	27.3 %
Expected term (years)	5.9

These estimates require us to make assumptions based on historical results, observance of trends in our share price, changes in option exercise behavior, future expectations and other relevant factors. If other assumptions had been used, share-based compensation expense, as calculated and recorded under the accounting guidance, could have been affected.

We based the expected life assumption on historical experience as well as the terms and vesting periods of the options granted. For purposes of determining expected share price volatility, we considered a rolling average of historical volatility measured over a period approximately equal to the expected option term. The risk-free interest rate for periods that coincide with the expected life of the options is based on the U.S. Treasury Department yield curve in effect at the time of grant.

5. Restructuring

During the nine months ended September 30, 2016 and the year ended December 31, 2015, we continued execution of certain business restructuring initiatives aimed at reducing our fixed cost structure and realigning our business. Initiatives during the nine months ended September 30, 2016 included the reduction in hourly and salaried headcount of approximately 475 employees, consisting of approximately 75 in Water Quality Systems, 100 in Flow & Filtration Solutions and 300 in Technical Solutions. Initiatives during the year ended December 31, 2015 included the reduction in hourly and salaried headcount of approximately 500 employees, consisting of approximately 100 in Water Quality Systems, 200 in Flow & Filtration Solutions and 200 in Technical Solutions.

Restructuring related costs included in Selling, general and administrative expenses in the Condensed Consolidated Statements of Operations and Comprehensive Income (Loss) included costs for severance and other restructuring costs as follows:

In millions	Three months ended September 30, 2016	Three months ended September 26, 2015	Nine months ended September 30, 2016	Nine months ended September 26, 2015
Severance and related costs	$ 7.3	$ 6.8	$ 19.2	$ 13.8
Other	—	0.4	0.7	3.8
Total restructuring costs	$ 7.3	$ 7.2	$ 19.9	$ 17.6

Other restructuring costs primarily consist of asset impairment and various contract termination costs.

Restructuring costs by reportable segment for the three and nine months ended September 30, 2016 and September 26, 2015 were as follows:

In millions	Three months ended September 30, 2016	Three months ended September 26, 2015	Nine months ended September 30, 2016	Nine months ended September 26, 2015
Water Quality Systems	$ 0.2	$ 1.5	$ 4.5	$ 4.8
Flow & Filtration Solutions	—	3.5	2.6	7.2
Technical Solutions	7.1	2.2	11.0	5.6
Other	—	—	1.8	—
Consolidated	$ 7.3	$ 7.2	$ 19.9	$ 17.6

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Pentair plc and Subsidiaries
Notes to condensed consolidated financial statements (unaudited)

Activity in the restructuring accrual recorded in Other current liabilities and Employee compensation and benefits in the Condensed Consolidated Balance Sheets is summarized as follows for the nine months ended September 30, 2016:

In millions	September 30, 2016
Beginning balance	$ 37.1
Costs incurred	19.2
Cash payments and other	(23.6)
Ending balance	$ 32.7

6. Earnings Per Share

Basic and diluted earnings per share were calculated as follows:

In millions, except per-share data	Three months ended September 30, 2016	Three months ended September 26, 2015	Nine months ended September 30, 2016	Nine months ended September 26, 2015
Net income	$ 141.0	$ 115.2	$ 391.2	$ 376.9
Net income from continuing operations	$ 117.5	$ 94.7	$ 342.0	$ 293.1
Weighted average ordinary shares outstanding				
Basic	181.4	180.2	181.1	180.1
Dilutive impact of stock options, restricted stock units and performance share units	2.2	2.4	1.9	2.5
Diluted	183.6	182.6	183.0	182.6
Earnings per ordinary share				
Basic				
Continuing operations	$ 0.65	$ 0.53	$ 1.89	$ 1.63
Discontinued operations	0.13	0.11	0.27	0.46
Basic earnings per ordinary share	$ 0.78	$ 0.64	$ 2.16	$ 2.09
Diluted				
Continuing operations	$ 0.64	$ 0.52	$ 1.87	$ 1.61
Discontinued operations	0.13	0.11	0.27	0.45
Diluted earnings per ordinary share	$ 0.77	$ 0.63	$ 2.14	$ 2.06
Anti-dilutive stock options excluded from the calculation of diluted earnings per share	1.2	1.2	1.8	1.2

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7. Supplemental Balance Sheet Information

In millions	September 30, 2016	December 31, 2015
Inventories		
Raw materials and supplies	$ 235.7	$ 243.9
Work-in-process	72.9	74.4
Finished goods	247.6	246.4
Total inventories	$ 556.2	$ 564.7
Other current assets		
Cost in excess of billings	$ 134.6	$ 114.4
Prepaid expenses	92.2	59.1
Deferred income taxes	44.3	35.2
Other current assets	16.6	11.3
Total other current assets	$ 287.7	$ 220.0
Property, plant and equipment, net		
Land and land improvements	$ 67.3	$ 86.6
Buildings and leasehold improvements	338.3	338.9
Machinery and equipment	929.9	960.2
Construction in progress	79.7	68.3
Total property, plant and equipment	1,415.2	1,454.0
Accumulated depreciation and amortization	867.9	914.2
Total property, plant and equipment, net	$ 547.3	$ 539.8
Other non-current assets		
Deferred income taxes	$ 2.1	$ 2.9
Deferred compensation plan assets	47.9	50.8
Other non-current assets	112.2	107.4
Total other non-current assets	$ 162.2	$ 161.1
Other current liabilities		
Dividends payable	$ —	$ 59.6
Accrued warranty	44.2	47.0
Accrued rebates	68.1	50.7
Billings in excess of cost	24.8	32.0
Other current liabilities	279.6	297.8
Total other current liabilities	$ 416.7	$ 487.1
Other non-current liabilities		
Taxes payable	$ 48.9	$ 46.8
Self-insurance liabilities	50.1	49.0
Deferred compensation plan liabilities	47.9	50.8
Other non-current liabilities	52.6	45.8
Total other non-current liabilities	$ 199.5	$ 192.4

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8. Goodwill and Other Identifiable Intangible Assets
The changes in the carrying amount of goodwill by segment were as follows:

In millions	December 31, 2015	Purchase accounting adjustments	Foreign currency translation/other	September 30, 2016
Water Quality Systems	$ 1,121.1	$ —	$ 6.0	$ 1,127.1
Flow & Filtration Solutions	882.7	—	13.7	896.4
Technical Solutions	2,255.2	(30.9)	3.9	2,228.2
Total goodwill	$ 4,259.0	$ (30.9)	$ 23.6	$ 4,251.7

Identifiable intangible assets consisted of the following:

	September 30, 2016			December 31, 2015		
In millions	Cost	Accumulated amortization	Net	Cost	Accumulated amortization	Net
Finite-life intangibles						
Customer relationships	$1,491.3	$ (332.6)	$1,158.7	$1,482.9	$ (266.9)	$1,216.0
Trade names	1.9	(1.4)	0.5	1.8	(1.2)	0.6
Proprietary technology and patents	145.5	(100.1)	45.4	144.1	(89.8)	54.3
Total finite-life intangibles	1,638.7	(434.1)	1,204.6	1,628.8	(357.9)	1,270.9
Indefinite-life intangibles						
Trade names	478.4	—	478.4	476.5	—	476.5
Total intangibles, net	$2,117.1	$ (434.1)	$1,683.0	$2,105.3	$ (357.9)	$1,747.4

Intangible asset amortization expense was $24.1 million and $14.8 million for the three months ended September 30, 2016 and September 26, 2015, respectively, and $72.6 million and $43.8 million for the nine months ended September 30, 2016 and September 26, 2015, respectively.
Estimated future amortization expense for identifiable intangible assets during the remainder of 2016 and the next five years is as follows:

In millions	Q4 2016	2017	2018	2019	2020	2021
Estimated amortization expense	$21.3	$85.2	$85.0	$84.3	$82.1	$78.9

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9. Debt
Debt and the average interest rates on debt outstanding were as follows:

In millions	Average interest rate at September 30, 2016	Maturity Year	September 30, 2016	December 31, 2015
Commercial paper	1.755%	2019	$ 454.3	$ 179.5
Revolving credit facilities	2.022%	2019	615.5	1,181.4
Senior notes - fixed rate	1.875%	2017	350.0	350.0
Senior notes - fixed rate	2.900%	2018	500.0	500.0
Senior notes - fixed rate	2.650%	2019	250.0	250.0
Senior notes - fixed rate - Euro	2.450%	2019	560.8	548.4
Senior notes - fixed rate	3.625%	2020	400.0	400.0
Senior notes - fixed rate	5.000%	2021	500.0	500.0
Senior notes - fixed rate	3.150%	2022	550.0	550.0
Senior notes - fixed rate	4.650%	2025	250.0	250.0
Unamortized debt issuance costs and discounts	N/A	N/A	(19.3)	(23.5)
Total debt			4,411.3	4,685.8
Less: Current maturities and short-term borrowings			—	—
Long-term debt			$ 4,411.3	$ 4,685.8

In September 2015, Pentair plc, Pentair Finance S.A. ("PFSA") and Pentair Investments Switzerland GmbH ("PISG"), a 100-percent owned subsidiary of Pentair plc and the 100-percent owner of PFSA, completed public offerings (the "September 2015 Offerings") of $500 million aggregate principal amount of PFSA's 2.90% Senior Notes due 2018, $400 million aggregate principal amount of PFSA's 3.625% Senior Notes due 2020, $250 million aggregate principal amount of PFSA's 4.65% Senior Notes due 2025 and €500 million aggregate principal amount of PFSA's 2.45% Senior Notes due 2019. Pentair plc used the net proceeds from the September 2015 Offerings to finance the ERICO Acquisition.

The Senior Notes issued in the September 2015 Offerings, 1.875% Senior Notes due 2017, 2.65% Senior Notes due 2019, $373.0 million of the 5.00% Senior Notes due 2021 and 3.15% Senior Notes due 2022 issued by PFSA and $127.0 million of the 5.00% Senior Notes due 2021 issued by Pentair, Inc. (collectively, the "Notes") are guaranteed as to payment by Pentair plc and PISG.

In October 2014, Pentair plc, PISG, PFSA and Pentair, Inc. entered into an amended and restated credit agreement (the "Credit Facility"), with Pentair plc and PISG as guarantors and PFSA and Pentair, Inc. as borrowers. The Credit Facility had a maximum aggregate availability of $2,100.0 million and a maturity date of October 3, 2019. Borrowings under the Credit Facility generally bear interest at a variable rate equal to the London Interbank Offered Rate ("LIBOR") plus a specified margin based upon PFSA's credit ratings. PFSA must pay a facility fee ranging from 9.0 to 25.0 basis points per annum (based upon PFSA's credit ratings) on the amount of each lender's commitment and letter of credit fee for each letter of credit issued and outstanding under the Credit Facility.

In August 2015, Pentair plc, PISG and PFSA entered into a First Amendment to the Credit Facility (the "First Amendment"), which, among other things, increased the maximum Leverage Ratio (as defined below). In September 2015, Pentair plc, PISG and PFSA entered into a Second Amendment to the Credit Facility (the "Second Amendment"), which, among other things, increased the maximum aggregate availability to $2,500.0 million. Additionally, in September 2016, Pentair plc, PISG and PFSA entered into a Third Amendment to the Credit Facility (the "Third Amendment," and collectively with the First Amendment and the Second Amendment, the "Amendments"), which, among other things, increased the maximum Leverage Ratio to the amounts specified below, and amended the definition of EBITDA to include earnings from discontinued operations for operations subject to a sale agreement until such disposition actually occurs.

PFSA is authorized to sell short-term commercial paper notes to the extent availability exists under the Credit Facility. PFSA uses the Credit Facility as back-up liquidity to support 100% of commercial paper outstanding. As of September 30, 2016 and December 31, 2015, PFSA had $454.3 million and $179.5 million, respectively, of commercial paper outstanding, all of which was classified as long-term debt as we have the intent and the ability to refinance such obligations on a long-term basis under the Credit Facility.

Our debt agreements contain certain financial covenants, the most restrictive of which are in the Credit Facility (as updated for the Amendments), including that we may not permit (i) the ratio of our consolidated debt plus synthetic lease obligations to our consolidated net income (excluding, among other things, non-cash gains and losses) before interest, taxes, depreciation, amortization, non-cash share-based compensation expense, and up to a lifetime maximum $25.0 million of costs, fees and expenses incurred in connection with certain acquisitions, investments, dispositions and the issuance, repayment or refinancing of debt, ("EBITDA") for the four consecutive fiscal quarters then ended (the "Leverage Ratio") to exceed (a) 4.50 to 1.00 as of the last day of any period of four consecutive fiscal quarters ending on September 30, 2016; (b) 4.50 to 1.00 as of the last day of the period of four consecutive fiscal quarters ending on December 31, 2016; (c) 4.25 to 1.00 as of the last day of the period of four consecutive fiscal quarters ending on March 31, 2017; (d) 4.00 to 1.00 as of the last day of the period of four consecutive fiscal quarters ending on June 30, 2017; and (e) 3.50 to 1.00 as of the last day of any period of four consecutive fiscal quarters ending thereafter, and (ii) the ratio of our EBITDA for the four consecutive fiscal quarters then ended to our consolidated interest expense, including consolidated yield or discount accrued as to outstanding securitization obligations (if any), for the same period to be less than 3.00 to 1.00 as of the end of each fiscal quarter. For purposes of the Leverage Ratio, the Credit Facility provides for the calculation of EBITDA giving pro forma effect to certain acquisitions, divestitures and liquidations during the period to which such calculation relates. As of September 30, 2016, we were in compliance with all financial covenants in our debt agreements.

Total availability under the Credit Facility was $1,430.2 million as of September 30, 2016, which was limited to $733.6 million by the maximum Leverage Ratio in the Credit Facility’s credit agreement.

In addition to the Credit Facility, we have various other credit facilities with an aggregate availability of $51.9 million, of which none was outstanding at September 30, 2016. Borrowings under these credit facilities bear interest at variable rates.

We have $350.0 million of fixed rate senior notes maturing in September 2017. We classified this debt as long-term as of September 30, 2016 as we have the intent and ability to refinance such obligation on a long-term basis under the Credit Facility.

Debt outstanding, excluding unamortized issuance costs and discounts, at September 30, 2016 matures on a calendar year basis as follows:

In millions	Q4 2016	2017	2018	2019	2020	2021	Thereafter	Total
Contractual debt obligation maturities	$ —	$ —	$ 500.0	$ 2,230.6	$ 400.0	$ 500.0	$ 800.0	$ 4,430.6

10. Derivatives and Financial Instruments

Derivative financial instruments

We are exposed to market risk related to changes in foreign currency exchange rates and interest rates on our floating rate indebtedness. To manage the volatility related to these exposures, we periodically enter into a variety of derivative financial instruments. Our objective is to reduce, where it is deemed appropriate to do so, fluctuations in earnings and cash flows associated with changes in foreign currency rates and interest rates. The derivative contracts contain credit risk to the extent that our bank counterparties may be unable to meet the terms of the agreements. The amount of such credit risk is generally limited to the unrealized gains, if any, in such contracts. Such risk is minimized by limiting those counterparties to major financial institutions of high credit quality.

Foreign currency contracts

We conduct business in various locations throughout the world and are subject to market risk due to changes in the value of foreign currencies in relation to our reporting currency, the U.S. dollar. We manage our economic and transaction exposure to certain market-based risks through the use of foreign currency derivative financial instruments. Our objective in holding these derivatives is to reduce the volatility of net earnings and cash flows associated with changes in foreign currency exchange rates. The majority of our foreign currency contracts have an original maturity date of less than one year. To hedge currency exposure related to certain non-functional currency intercompany debt, we have entered into cross-currency swap contracts for periods consistent with the underlying debt.

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At September 30, 2016 and December 31, 2015, we had outstanding foreign currency derivative contracts with gross notional U.S. dollar equivalent amounts of $543.9 million and $331.5 million, respectively. The impact of these contracts on the Condensed Consolidated Statements of Operations and Comprehensive Income (Loss) is not material for any period presented.
Gains or losses on foreign currency contracts designated as hedges are reclassified out of Accumulated Other Comprehensive Loss ("AOCI") and into Selling, general and administrative expense in the Condensed Consolidated Statements of Operations and Comprehensive Income (Loss) upon settlement. Such reclassifications during the three and nine months ended September 30, 2016 and September 26, 2015 were not material.
Net investment hedge
We have net investments in foreign subsidiaries that are subject to changes in the foreign currency exchange rate. In September 2015, we designated the €500.0 million 2.45% Senior Notes due 2019 (the "2019 Euro Notes") as a net investment hedge for a portion of our net investment in our Euro denominated subsidiaries. The gains/losses on the 2019 Euro Notes have been included as a component of the cumulative translation adjustment account within AOCI. We had deferred foreign currency gains of $4.1 million and $16.4 million in AOCI associated with the net investment hedge activity as of September 30, 2016 and December 31, 2015, respectively.
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. Assets and liabilities measured at fair value are classified using the following hierarchy, which is based upon the transparency of inputs to the valuation as of the measurement date:

Level 1:	Valuation is based on observable inputs such as quoted market prices (unadjusted) for identical assets or liabilities in active markets.
Level 2:	Valuation is based on inputs such as quoted market prices for similar assets or liabilities in active markets or other inputs that are observable for the asset or liability, either directly or indirectly, for substantially the full term of the financial instrument.
Level 3:	Valuation is based upon other unobservable inputs that are significant to the fair value measurement.

In making fair value measurements, observable market data must be used when available. When inputs used to measure fair value fall within different levels of the hierarchy, the level within which the fair value measurement is categorized is based on the lowest level input that is significant to the fair value measurement.
Fair value of financial instruments
The following methods were used to estimate the fair values of each class of financial instruments:

- short-term financial instruments (cash and cash equivalents, accounts and notes receivable, accounts and notes payable and variable-rate debt) — recorded amount approximates fair value because of the short maturity period;
- long-term fixed-rate debt, including current maturities — fair value is based on market quotes available for issuance of debt with similar terms, which are inputs that are classified as Level 2 in the valuation hierarchy defined by the accounting guidance; and
- foreign currency contract agreements — fair values are determined through the use of models that consider various assumptions, including time value, yield curves, as well as other relevant economic measures, which are inputs that are classified as Level 2 in the valuation hierarchy defined by the accounting guidance.

The recorded amounts and estimated fair values of total debt, excluding unamortized issuance costs and discounts, were as follows:

	September 30, 2016		December 31, 2015	
In millions	Recorded	Fair	Recorded	Fair

	Amount	Value	Amount	Value
Variable rate debt	$1,069.8	$1,069.8	$1,360.9	$1,360.9
Fixed rate debt	3,360.8	3,526.7	3,348.4	3,395.4
Total debt	$4,430.6	$4,596.5	$4,709.3	$4,756.3

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Financial assets and liabilities measured at fair value on a recurring and nonrecurring basis were as follows:

	September 30, 2016			
In millions	Level 1	Level 2	Level 3	Total
Recurring fair value measurements				
Foreign currency contract assets	$—	$3.6	$ —	$3.6
Foreign currency contract liabilities	—	(25.5)	—	(25.5)
Deferred compensation plan assets [1]	41.2	6.7	—	47.9
Total recurring fair value measurements	$41.2	$(15.2)	$ —	$26.0

	December 31, 2015			
In millions	Level 1	Level 2	Level 3	Total
Recurring fair value measurements				
Foreign currency contract assets	$—	$ 0.1	$ —	$0.1
Foreign currency contract liabilities	—	(7.6)	—	(7.6)
Deferred compensation plan assets [1]	43.8	7.0	—	50.8
Total recurring fair value measurements	$43.8	$ (0.5)	$ —	$43.3
Nonrecurring fair value measurements [2] [3]				

(1) Deferred compensation plan assets include mutual funds, common/collective trusts and cash equivalents for payment of certain non-qualified benefits for retired, terminated and active employees. The fair value of mutual funds and cash equivalents were based on quoted market prices in active markets. The underlying investments in the common/collective trusts primarily include intermediate and long-term debt securities, corporate debt securities, equity securities and fixed income securities. The overall fair value of the common/collective trusts are based on observable inputs.

(2) During the fourth quarter of 2015, we performed a goodwill impairment test for the Valves & Controls reporting unit using the required two-step process as of December 31, 2015. As a result, we recorded a non-cash goodwill impairment charge of $515.2 million.

The first step of this process includes comparing the fair value to the carrying value of the reporting unit to which the goodwill is allocated to identify potential impairment. The fair value of the reporting unit was determined using a discounted cash flow analysis and market approach. Projecting discounted future cash flows requires us to make significant estimates regarding future revenues and expenses, projected capital expenditures, changes in working capital and the appropriate discount rate. Use of the market approach consists of comparisons to comparable publicly-traded companies that are similar in size and industry. Actual results may differ from those used in our valuations.

Step two compares the implied fair value of the goodwill with the carrying value of that goodwill. If the carrying value of the goodwill exceeds its implied fair value, an impairment loss is recognized in an amount equal to that excess. The implied fair value of goodwill is determined in the same manner as the amount of goodwill recognized in a business combination.

(3) During the fourth quarter of 2015, we performed an impairment test for the Valves & Controls trade names. As a result, we recorded a pre-tax, non-cash trade name impairment charge of $39.5 million. The fair value of trade names is measured using the relief-from-royalty method. This method assumes the trade name has value to the extent that the owner is relieved of the obligation to pay royalties for the benefits received from them. This method requires us to estimate the future revenue for the related brands, the appropriate royalty rate and the weighted average cost of capital.

The Valves & Controls business referred to above has met the criteria to be classified as held for sale and is presented as discontinued operations for all periods presented. See Note 3 of the Notes to the Condensed Consolidated Financial Statements for additional information.

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11. Income Taxes

We manage our affairs so that we are centrally managed and controlled in the United Kingdom (the "U.K.") and therefore have our tax residency in the U.K. The provision for income taxes consists of provisions for U.K. and international income taxes. We operate in an international environment with operations in various locations outside the U.K. Accordingly, the consolidated income tax rate is a composite rate reflecting the earnings in the various locations and the applicable rates.

The effective income tax rate for the nine months ended September 30, 2016 was 21.5%, compared to 22.5% for the nine months ended September 26, 2015. We continue to actively pursue initiatives to reduce our effective tax rate. The tax rate in any quarter can be affected positively or negatively by adjustments that are required to be reported in the specific quarter of resolution.

The liability for uncertain tax positions of continuing operations was $48.3 million and $45.6 million at September 30, 2016 and December 31, 2015, respectively. The liability for uncertain tax positions of discontinued operations was $27.8 million and $24.3 million at September 30, 2016 and December 31, 2015, respectively. We record penalties and interest related to unrecognized tax benefits in Provision for income taxes and Net interest expense, respectively, on the Condensed Consolidated Statements of Operations and Comprehensive Income (Loss), which is consistent with our past practices.

12. Benefit Plans

Components of net periodic benefit cost for our pension plans for the three and nine months ended September 30, 2016 and September 26, 2015 were as follows:

	U.S. pension plans			
	Three months ended		Nine months ended	
In millions	September 30, 2016	September 26, 2015	September 30, 2016	September 26, 2015
Service cost	$2.8	$ 3.5	$8.4	$ 10.5
Interest cost	4.1	3.7	12.3	11.1
Expected return on plan assets	(2.9)	(2.5)	(8.6)	(7.5)
Net periodic benefit cost	$4.0	$ 4.7	$12.1	$ 14.1

	Non-U.S. pension plans			
	Three months ended		Nine months ended	
In millions	September 30, 2016	September 26, 2015	September 30, 2016	September 26, 2015
Service cost	$2.1	$ 2.1	$ 6.2	$ 6.3
Interest cost	1.1	1.1	3.3	3.3
Expected return on plan assets	(0.4)	(0.4)	(1.2)	(1.2)
Net periodic benefit cost	$2.8	$ 2.8	$ 8.3	$ 8.4

Components of net periodic benefit cost for our other post-retirement plans for the three and nine months ended September 30, 2016 and September 26, 2015 were not material.

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13. Shareholders' Equity
Ordinary shares held in treasury
In August 2015, we canceled all of our ordinary shares held in treasury. At the time of the cancellation, we held 19.1 million ordinary shares in treasury at a cost of $1.2 billion.
Share repurchases
In December 2014, the Board of Directors authorized the repurchase of our ordinary shares up to a maximum dollar limit of $1.0 billion. The authorization expires on December 31, 2019. During the nine months ended September 26, 2015, we repurchased 3.1 million of our shares for $200.0 million pursuant to this authorization. There were no share repurchases during the nine months ended September 30, 2016 pursuant to this authorization. As of September 30, 2016, we had $800.0 million available for share repurchases under this authorization.
Dividends payable
On December 8, 2015, the Board of Directors approved a plan to increase the 2016 annual cash dividend to $1.34, to be paid to our shareholders in four quarterly installments of $0.33 in each of the first and second quarters of 2016 and $0.34 in each of the third and fourth quarters of 2016.

On October 4, 2016, the Board of Directors declared a quarterly cash dividend of $0.34 payable on November 4, 2016 to shareholders of record at the close of business on October 21, 2016. As a result, there were no dividends payable included in Other current liabilities on our Condensed Consolidated Balance Sheets at September 30, 2016 and a balance of $59.6 million at December 31, 2015.
14. Segment Information
We evaluate performance based on net sales and segment income (loss) and use a variety of ratios to measure performance of our reporting segments. Segment income (loss) represents equity income of unconsolidated subsidiaries and operating income exclusive of intangible amortization, certain acquisition related expenses, costs of restructuring activities, "mark-to-market" gain/loss for pension and other post-retirement plans, impairments and other unusual non-operating items.
Financial information by reportable segment is as follows:

In millions	Three months ended September 30, 2016	Three months ended September 26, 2015	Nine months ended September 30, 2016	Nine months ended September 26, 2015
Net sales				
Water Quality Systems	$328.6	$ 322.0	$1,057.2	$ 1,016.6
Flow & Filtration Solutions	342.7	362.7	1,049.1	1,087.4
Technical Solutions	543.1	432.3	1,608.3	1,235.2
Other	(3.7)	(4.2)	(12.7)	(11.8)
Consolidated	$1,210.7	$ 1,112.8	$3,701.9	$ 3,327.4
Segment income (loss)				
Water Quality Systems	$69.6	$ 60.5	$229.5	$ 200.5
Flow & Filtration Solutions	49.5	53.2	144.5	146.7
Technical Solutions	119.6	101.0	344.0	265.0
Other	(22.5)	(27.2)	(82.9)	(85.4)
Consolidated	$216.2	$ 187.5	$635.1	$ 526.8

The following table presents a reconciliation of consolidated segment income to consolidated operating income:

In millions	Three months ended September 30, 2016	Three months ended September 26, 2015	Nine months ended September 30, 2016	Nine months ended September 26, 2015
Segment income	$216.2	$ 187.5	$635.1	$ 526.8
Restructuring and other	(8.1)	(3.9)	(20.9)	(20.1)
Intangible amortization	(24.1)	(14.8)	(72.6)	(43.8)
Inventory step-up	—	(1.4)	—	(2.9)
Transaction costs	—	(14.3)	—	(14.3)
Equity income of unconsolidated subsidiaries	(1.2)	(0.2)	(2.7)	(1.3)
Operating income	$182.8	$ 152.9	$538.9	$ 444.4

15. Commitments and Contingencies

Asbestos matters

Our subsidiaries and numerous other companies are named as defendants in personal injury lawsuits based on alleged exposure to asbestos-containing materials. These cases typically involve product liability claims based primarily on allegations of manufacture, sale or distribution of industrial products that either contained asbestos or were attached to or used with asbestos-containing components manufactured by third-parties. Each case typically names between dozens to hundreds of corporate defendants. While we have observed an increase in the number of these lawsuits over the past several years, including lawsuits by plaintiffs with mesothelioma-related claims, a large percentage of these suits have not presented viable legal claims and, as a result, have been dismissed by the courts. Our historical strategy has been to mount a vigorous defense aimed at having unsubstantiated suits dismissed, and, where appropriate, settling suits before trial. Although a large percentage of litigated suits have been dismissed, we cannot predict the extent to which we will be successful in resolving lawsuits in the future.

As of September 30, 2016, there were approximately 4,000 claims outstanding against our subsidiaries, of which approximately 3,500 relate to the Valves & Control business classified as held for sale. These amounts include adjustments for claims that are not actively being prosecuted. The amounts are not adjusted for claims that identify incorrect defendants or duplicate other actions. In addition, the amount does not include certain claims pending against third parties for which we have been provided an indemnification.

Periodically, we perform an analysis with the assistance of outside counsel and other experts to update our estimated asbestos-related assets and liabilities. Our estimate of the liability and corresponding insurance recovery for pending and future claims and defense costs is based on our historical claim experience and estimates of the number and resolution cost of potential future claims that may be filed. Our legal strategy for resolving claims also impacts these estimates.

Our estimate of asbestos-related insurance recoveries represents estimated amounts due to us for previously paid and settled claims and the probable reimbursements relating to our estimated liability for pending and future claims. In determining the amount of insurance recoverable, we consider a number of factors, including available insurance, allocation methodologies and the solvency and creditworthiness of insurers.

Our estimated liability for asbestos-related claims was $231.2 million and $237.9 million as of September 30, 2016 and December 31, 2015, respectively, and was recorded in Non-current liabilities held for sale in the Condensed Consolidated Balance Sheets for pending and future claims and related defense costs. Our estimated receivable for insurance recoveries was $109.3 million and $111.0 million as of September 30, 2016 and December 31, 2015, respectively, and was recorded in Non-current assets held for sale in the Condensed Consolidated Balance Sheets.

The amounts recorded by us for asbestos-related liabilities and insurance-related assets are based on our strategies for resolving our asbestos claims and currently available information as well as estimates and assumptions. Key variables and assumptions include the number and type of new claims filed each year, the average cost of resolution of claims, the resolution of coverage issues with insurance carriers, the amounts of insurance and the related solvency risk with respect to our insurance carriers, and the indemnifications we have provided to and received from third parties. Furthermore, predictions with respect to these variables are subject to greater uncertainty in the latter portion of the projection period. Other factors that may affect our liability and cash payments for asbestos-related matters include uncertainties surrounding the litigation process from jurisdiction to jurisdiction and from case to case, reforms of state or federal tort legislation and the applicability of insurance policies among subsidiaries. As a result, actual liabilities or insurance recoveries could be significantly higher or lower than those recorded if assumptions used in our calculations vary significantly from actual results.

Environmental matters

We are involved in or have retained responsibility and potential liability for environmental obligations and legal proceedings related to our current business and, including pursuant to certain indemnification obligations, related to certain formerly owned businesses. Our accruals for environmental matters are recorded on a site-by-site basis when it is probable that a liability has been incurred and the amount of the liability can be reasonably estimated, based on current law and existing technologies. Based upon our experience, current information regarding known contingencies and applicable laws, we have recorded reserves for these environmental matters of $18.0 million and $22.8 million as of September 30, 2016 and December 31, 2015, respectively, which relate primarily to the Valves & Controls business classified as held for sale. We do not anticipate these environmental conditions will have a material adverse effect on our financial position, results of operations or cash flows.

Warranties and guarantees

In connection with the disposition of our businesses or product lines, we may agree to indemnify purchasers for various potential liabilities relating to the sold business, such as pre-closing tax, product liability, warranty, environmental, or other obligations. The subject matter, amounts and duration of any such indemnification obligations vary for each type of liability indemnified and may vary widely from transaction to transaction. Generally, the maximum obligation under such indemnifications is not explicitly stated and as a result, the overall amount of these obligations cannot be reasonably estimated. Historically, we have not made significant payments for these indemnifications. We believe that if we were to incur a loss in any of these matters, the loss would not have a material effect on our financial condition or results of operations.

We recognize, at the inception of a guarantee, a liability for the fair value of the obligation undertaken in issuing the guarantee.

We provide service and warranty policies on our products. Liability under service and warranty policies is based upon a review of historical warranty and service claim experience. Adjustments are made to accruals as claim data and historical experience warrant.

The changes in the carrying amount of service and product warranties of continuing operations for the nine months ended September 30, 2016 were as follows:

In millions	September 30, 2016
Beginning balance	$ 47.0
Service and product warranty provision	43.9
Payments	(46.9)
Foreign currency translation	0.2
Ending balance	$ 44.2

Stand-by letters of credit, bank guarantees and bonds

In certain situations, Tyco International Ltd., Pentair Ltd.'s former parent company ("Tyco"), guaranteed performance by the flow control business of Pentair Ltd. ("Flow Control") to third parties or provided financial guarantees for financial commitments of Pentair Ltd. In situations where Flow Control and Tyco were unable to obtain a release from these guarantees in connection with the spin-off of Pentair Ltd., we will indemnify Tyco for any losses it suffers as a result of such guarantees.

In disposing of assets or businesses, we often provide representations, warranties and indemnities to cover various risks including unknown damage to the assets, environmental risks involved in the sale of real estate, liability to investigate and remediate environmental contamination at waste disposal sites and manufacturing facilities and unidentified tax liabilities and legal fees related to periods prior to disposition. We do not have the ability to reasonably estimate the potential liability due to the inchoate and unknown nature of these potential liabilities. However, we have no reason to believe that these uncertainties would have a material adverse effect on our financial position, results of operations or cash flows.

In the ordinary course of business, we are required to commit to bonds, letters of credit and bank guarantees that require payments to our customers for any non-performance. The outstanding face value of these instruments fluctuates with the value of our projects in process and in our backlog. In addition, we issue financial stand-by letters of credit primarily to secure our performance to third parties under self-insurance programs.

As of September 30, 2016 and December 31, 2015, the outstanding value of bonds, letters of credit and bank guarantees totaled $337.0 million and $402.2 million, respectively, of which $179.7 million and $202.3 million, respectively, relate to the Valves & Controls business.

16. Supplemental Guarantor Information

Pentair plc (the "Parent Company Guarantor") and Pentair Investments Switzerland GmbH (the "Subsidiary Guarantor"), fully and unconditionally, guarantee the Notes of Pentair Finance S.A. (the "Subsidiary Issuer"). The Subsidiary Guarantor is a Switzerland limited liability company and 100 percent-owned subsidiary of the Parent Company Guarantor. The Subsidiary Issuer is a Luxembourg public limited liability company and 100 percent-owned subsidiary of the Subsidiary Guarantor. The guarantees provided by the Parent Company Guarantor and Subsidiary Guarantor are joint and several.

The following supplemental financial information sets forth the Company’s Condensed Consolidating Statement of Operations and Comprehensive Income (Loss), Condensed Consolidating Balance Sheets and Condensed Consolidating Statement of Cash Flows by relevant group within the Company: Pentair plc and Pentair Investments Switzerland GmbH as the guarantors, Pentair Finance S.A. as issuer of the debt and all other non-guarantor subsidiaries. Condensed consolidating financial information for Pentair plc, Pentair Investments Switzerland GmbH and Pentair Finance S.A. on a stand-alone basis is presented using the equity method of accounting for subsidiaries.

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Condensed Consolidating Statement of Operations and Comprehensive Income (Loss)
Three months ended September 30, 2016

In millions	Parent Company Guarantor	Subsidiary Guarantor	Subsidiary Issuer	Non-guarantor Subsidiaries	Eliminations	Consolidated Total
Net sales	$ —	$ —	$ —	$ 1,210.7	$ —	$ 1,210.7
Cost of goods sold	—	—	—	769.8	—	769.8
Gross profit	—	—	—	440.9	—	440.9
Selling, general and administrative	—	—	0.3	228.1	—	228.4
Research and development	—	—	—	29.7	—	29.7
Operating income (loss)	—	—	(0.3)	183.1	—	182.8
Loss (earnings) from continuing operations of investment in subsidiaries	(117.5)	(117.5)	(145.6)	—	380.6	—
Other (income) expense:						
Equity income of unconsolidated subsidiaries	—	—	—	(1.2)	—	(1.2)
Net interest expense	—	—	27.8	6.5	—	34.3
Income (loss) from continuing operations before income taxes	117.5	117.5	117.5	177.8	(380.6)	149.7
Provision for income taxes	—	—	—	32.2	—	32.2
Net income (loss) from continuing operations	117.5	117.5	117.5	145.6	(380.6)	117.5
Income from discontinued operations, net of tax	—	—	—	22.9	—	22.9
Gain from sale of discontinued operations, net of tax	—	—	—	0.6	—	0.6
Earnings (loss) from discontinued operations of investment in subsidiaries	23.5	23.5	23.5	—	(70.5)	—
Net income (loss)	$ 141.0	$ 141.0	$ 141.0	$ 169.1	$ (451.1)	$ 141.0
Comprehensive income (loss), net of tax						
Net income (loss)	$ 141.0	$ 141.0	$ 141.0	$ 169.1	$ (451.1)	$ 141.0
Changes in cumulative translation adjustment	34.9	34.9	34.9	34.9	(104.7)	34.9
Changes in market value of derivative financial instruments, net of tax	(4.8)	(4.8)	(4.8)	(4.8)	14.4	(4.8)
Comprehensive income (loss)	$ 171.1	$ 171.1	$ 171.1	$ 199.2	$ (541.4)	$ 171.1

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Pentair plc and Subsidiaries
Notes to condensed consolidated financial statements (unaudited)

Condensed Consolidating Statement of Operations and Comprehensive Income (Loss)
Nine months ended September 30, 2016

In millions	Parent Company Guarantor	Subsidiary Guarantor	Subsidiary Issuer	Non-guarantor Subsidiaries	Eliminations	Consolidated Total
Net sales	$ —	$ —	$ —	$ 3,701.9	$ —	$ 3,701.9
Cost of goods sold	—	—	—	2,347.9	—	2,347.9
Gross profit	—	—	—	1,354.0	—	1,354.0
Selling, general and administrative	1.7	—	1.3	725.2	—	728.2
Research and development	—	—	—	86.9	—	86.9
Operating income (loss)	(1.7)	—	(1.3)	541.9	—	538.9
Loss (earnings) from continuing operations of investment in subsidiaries	(343.6)	(343.6)	(428.8)	—	1,116.0	—
Other (income) expense:						
Equity income of unconsolidated subsidiaries	—	—	—	(2.7)	—	(2.7)
Net interest expense	—	—	83.9	22.0	—	105.9
Income (loss) from continuing operations before income taxes	341.9	343.6	343.6	522.6	(1,116.0)	435.7
Provision (benefit) for income taxes	(0.1)	—	—	93.8	—	93.7
Net income (loss) from continuing operations	342.0	343.6	343.6	428.8	(1,116.0)	342.0
Income from discontinued operations, net of tax	—	—	—	48.6	—	48.6
Gain from sale of discontinued operations, net of tax	—	—	—	0.6	—	0.6
Earnings (loss) from discontinued operations of investment in subsidiaries	49.2	49.2	49.2	—	(147.6)	—
Net income (loss)	$ 391.2	$ 392.8	$ 392.8	$ 478.0	$ (1,263.6)	$ 391.2
Comprehensive income (loss), net of tax						
Net income (loss)	$ 391.2	$ 392.8	$ 392.8	$ 478.0	$ (1,263.6)	$ 391.2
Changes in cumulative translation adjustment	37.1	37.1	37.1	37.1	(111.3)	37.1
Changes in market value of derivative financial instruments, net of tax	(8.6)	(8.6)	(8.6)	(8.6)	25.8	(8.6)
Comprehensive income (loss)	$ 419.7	$ 421.3	$ 421.3	$ 506.5	$ (1,349.1)	$ 419.7

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Pentair plc and Subsidiaries
Notes to condensed consolidated financial statements (unaudited)

Condensed Consolidating Balance Sheet
September 30, 2016

In millions	Parent Company Guarantor	Subsidiary Guarantor	Subsidiary Issuer	Non-guarantor Subsidiaries	Eliminations	Consolidated Total
Assets						
Current assets						
Cash and cash equivalents	$ —	$ —	$ —	$ 170.9	$ —	$ 170.9
Accounts and notes receivable, net	—	—	—	689.5	—	689.5
Inventories	—	—				