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

FORM 10-Q

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

For the quarterly period ended June 30, 2019

or

☐ **TRANSITION REPORT PURSUANT TO SECTION 13 OR 15 (d) OF THE SECURITIES EXCHANGE ACT OF 1934**

For the transition period from ______to ______

Commission File Number 001-34400

INGERSOLL-RAND PUBLIC LIMITED COMPANY
(Exact name of registrant as specified in its charter)

Ireland	**98-0626632**
(State or other jurisdiction of incorporation or organization)	*(I.R.S. Employer Identification No.)*

170/175 Lakeview Dr.
Airside Business Park
Swords Co. Dublin
Ireland
(Address of principal executive offices, including zip code)
+(353) (0) 18707400
(Registrant's telephone number, including area code)

Securities registered pursuant to Section 12(b) of the Act:

Title of each class	Trading Symbol	Name of each exchange on which registered
Ordinary Shares, Par Value $1.00 per Share	IR	New York Stock Exchange

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 ☒ NO ☐

Indicate by check mark whether the registrant has submitted electronically every Interactive Data File required to be submitted pursuant to Rule 405 of Regulation S-T (§232.405 of this chapter) during the preceding 12 months (or for such shorter period that the registrant was required to submit such files). Yes ☒ NO ☐

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

Large Accelerated Filer	☒	Accelerated filer	☐	Emerging growth company	☐
Non-accelerated filer	☐	Smaller reporting company	☐		

If an emerging growth company, indicate by check mark if the registrant has elected not to use the extended transition period for complying with any new or revised financial accounting standards provided pursuant to Section 13(a) of the Exchange Act. ☐

Indicate by check mark whether the registrant is a shell company (as defined in Rule 12b-2 of the Exchange Act). Yes ☐ NO ☒

The number of ordinary shares outstanding of Ingersoll-Rand plc as of July 19, 2019 was 241,576,691 .

INGERSOLL-RAND PLC

FORM 10-Q

INDEX

PART I - FINANCIAL INFORMATION

Item 1. Financial Statements

INGERSOLL-RAND PLC
CONDENSED CONSOLIDATED STATEMENTS OF COMPREHENSIVE INCOME
(Unaudited)

In millions, except per share amounts	Three months ended June 30, 2019	Three months ended June 30, 2018	Six months ended June 30, 2019	Six months ended June 30, 2018
Net revenues	$ 4,527.8	$ 4,357.7	$ 8,103.7	$ 7,742.2
Cost of goods sold	(3,094.1)	(2,964.1)	(5,611.4)	(5,384.3)
Selling and administrative expenses	(783.2)	(753.3)	(1,523.3)	(1,474.2)
Operating income	650.5	640.3	969.0	883.7
Interest expense	(64.7)	(50.3)	(115.6)	(123.2)
Other income/(expense), net	3.4	(3.5)	(15.4)	(7.5)
Earnings before income taxes	589.2	586.5	838.0	753.0
Provision for income taxes	(123.3)	(128.0)	(166.3)	(161.0)
Earnings from continuing operations	465.9	458.5	671.7	592.0
Discontinued operations, net of tax	(5.6)	(5.9)	(7.7)	(15.3)
Net earnings	460.3	452.6	664.0	576.7
Less: Net earnings attributable to noncontrolling interests	(4.2)	(4.5)	(8.0)	(8.2)
Net earnings attributable to Ingersoll-Rand plc	$ 456.1	$ 448.1	$ 656.0	$ 568.5
Amounts attributable to Ingersoll-Rand plc ordinary shareholders:				
Continuing operations	$ 461.7	$ 454.0	$ 663.7	$ 583.8
Discontinued operations	(5.6)	(5.9)	(7.7)	(15.3)
Net earnings	$ 456.1	$ 448.1	$ 656.0	$ 568.5
Earnings (loss) per share attributable to Ingersoll-Rand plc ordinary shareholders:				
Basic:				
Continuing operations	$ 1.91	$ 1.83	$ 2.74	$ 2.35
Discontinued operations	(0.03)	(0.02)	(0.03)	(0.07)
Net earnings	$ 1.88	$ 1.81	$ 2.71	$ 2.28
Diluted:				
Continuing operations	$ 1.88	$ 1.82	$ 2.71	$ 2.32
Discontinued operations	(0.02)	(0.03)	(0.03)	(0.06)
Net earnings	$ 1.86	$ 1.79	$ 2.68	$ 2.26
Weighted-average shares outstanding:				
Basic	242.1	247.5	242.3	248.9
Diluted	244.9	250.1	245.0	251.6
Total comprehensive income	$ 480.9	$ 171.6	$ 690.5	$ 448.2
Less: Total comprehensive income attributable to noncontrolling interests	(5.4)	(1.4)	(9.6)	(5.5)
Total comprehensive income attributable to Ingersoll-Rand plc	$ 475.5	$ 170.2	$ 680.9	$ 442.7

See accompanying notes to Condensed Consolidated Financial Statements.

INGERSOLL-RAND PLC
CONDENSED CONSOLIDATED BALANCE SHEETS

In millions	(Unaudited) June 30, 2019	December 31, 2018
ASSETS		
Current assets:		
Cash and cash equivalents	$ 875.6	$ 903.4
Accounts and notes receivable, net	3,108.3	2,679.2
Inventories, net	1,950.5	1,677.8
Other current assets	417.1	471.6
Total current assets	6,351.5	5,732.0
Property, plant and equipment, net	1,794.1	1,730.8
Goodwill	6,859.6	5,959.5
Intangible assets, net	4,230.3	3,634.7
Other noncurrent assets	1,432.1	857.9
Total assets	$ 20,667.6	$ 17,914.9
LIABILITIES AND EQUITY		
Current liabilities:		
Accounts payable	$ 1,889.9	$ 1,705.3
Accrued compensation and benefits	432.3	531.6
Accrued expenses and other current liabilities	2,028.8	1,728.2
Short-term borrowings and current maturities of long-term debt	829.2	350.6
Total current liabilities	5,180.2	4,315.7
Long-term debt	4,920.6	3,740.7
Postemployment and other benefit liabilities	1,196.9	1,192.9
Deferred and noncurrent income taxes	725.1	538.4
Other noncurrent liabilities	1,471.9	1,062.4
Total liabilities	13,494.7	10,850.1
Equity:		
Ingersoll-Rand plc shareholders’ equity:		
Ordinary shares	265.9	266.4
Ordinary shares held in treasury, at cost	(1,719.4)	(1,719.4)
Capital in excess of par value	26.0	—
Retained earnings	9,497.2	9,439.8
Accumulated other comprehensive income (loss)	(939.2)	(964.1)
Total Ingersoll-Rand plc shareholders’ equity	7,130.5	7,022.7
Noncontrolling interests	42.4	42.1
Total equity	7,172.9	7,064.8
Total liabilities and equity	$ 20,667.6	$ 17,914.9

See accompanying notes to Condensed Consolidated Financial Statements.

INGERSOLL-RAND PLC
CONDENSED CONSOLIDATED STATEMENTS OF EQUITY
(Unaudited)

In millions, except per share amounts	Total equity	Ordinary shares Amount	Ordinary shares Shares	Ordinary shares held in treasury, at cost	Capital in excess of par value	Retained earnings	Accumulated other comprehensive income (loss)	Noncontrolling Interests
Balance at December 31, 2018	$ 7,064.8	$ 266.4	266.4	$ (1,719.4)	$ —	$ 9,439.8	$ (964.1)	$ 42.1
Net earnings	203.7	—	—	—	—	199.9	—	3.8
Other comprehensive income (loss)	5.9	—	—	—	—	—	5.5	0.4
Shares issued under incentive stock plans	6.3	1.5	1.5	—	4.8	—	—	—
Repurchase of ordinary shares	(250.0)	(2.4)	(2.4)	—	(34.6)	(213.0)	—	—
Share-based compensation	29.0	—	—	—	29.7	(0.7)	—	—
Dividends declared to noncontrolling interest	(9.3)	—	—	—	—	—	—	(9.3)
Cash dividends declared	(127.7)	—	—	—	—	(127.7)	—	—
Other	0.1	—	—	—	0.1	—	—	—
Balance at March 31, 2019	$ 6,922.8	$ 265.5	265.5	$ (1,719.4)	$ —	$ 9,298.3	$ (958.6)	$ 37.0
Net earnings	460.3	—	—	—	—	456.1	—	4.2
Other comprehensive income (loss)	20.6	—	—	—	—	—	19.4	1.2
Shares issued under incentive stock plans	14.9	0.4	0.4	—	14.5	—	—	—
Share-based compensation	10.2	—	—	—	11.5	(1.3)	—	—
Cash dividends declared	(255.9)	—	—	—	—	(255.9)	—	—
Balance at June 30, 2019	$ 7,172.9	$ 265.9	265.9	$ (1,719.4)	$ 26.0	$ 9,497.2	$ (939.2)	$ 42.4

INGERSOLL-RAND PLC
CONDENSED CONSOLIDATED STATEMENTS OF EQUITY (CONTINUED)
(Unaudited)

In millions, except per share amounts	Total equity	Ordinary shares Amount	Ordinary shares Shares	Ordinary shares held in treasury, at cost	Capital in excess of par value	Retained earnings	Accumulated other comprehensive income (loss)	Noncontrolling Interests
Balance at December 31, 2017	$ 7,206.9	$ 274.0	274.0	$ (1,719.4)	$ 461.3	$ 8,903.2	$ (778.8)	$ 66.6
Net earnings	124.1	—	—	—	—	120.4	—	3.7
Other comprehensive income (loss)	152.5	—	—	—	—	—	152.1	0.4
Shares issued under incentive stock plans	6.6	1.3	1.3	—	5.3	—	—	—
Repurchase of ordinary shares	(250.0)	(2.8)	(2.8)	—	(247.2)	—	—	—
Share-based compensation	30.0	—	—	—	30.5	(0.5)	—	—
Dividends declared to noncontrolling interest	(11.0)	—	—	—	—	—	—	(11.0)
Adoption of ASU 2014-09	2.4	—	—	—	—	2.4	—	—
Adoption of ASU 2016-16	(9.1)	—	—	—	—	(9.1)	—	—
Cash dividends declared	(112.0)	—	—	—	—	(112.0)	—	—
Balance at March 31, 2018	$ 7,140.4	$ 272.5	272.5	$ (1,719.4)	$ 249.9	$ 8,904.4	$ (626.7)	$ 59.7
Net earnings	452.6	—	—	—	—	448.1	—	4.5
Other comprehensive income (loss)	(281.0)	—	—	—	—	—	(277.9)	(3.1)
Shares issued under incentive stock plans	7.2	0.2	0.2	—	7.0	—	—	—
Repurchase of ordinary shares	(250.1)	(2.8)	(2.8)	—	(247.3)	—	—	—
Share-based compensation	19.6	—	—	—	21.8	(2.2)	—	—
Dividends declared to noncontrolling interest	(24.5)	—	—	—	—	—	—	(24.5)
Cash dividends declared	(240.4)	—	—	—	—	(240.4)	—	—
Other	(0.1)	(0.1)	(0.1)	—	—	—	—	—
Balance at June 30, 2018	$ 6,823.7	$ 269.8	269.8	$ (1,719.4)	$ 31.4	$ 9,109.9	$ (904.6)	$ 36.6

See accompanying notes to Condensed Consolidated Financial Statements.

INGERSOLL-RAND PLC
CONDENSED CONSOLIDATED STATEMENTS OF CASH FLOWS
(Unaudited)

In millions	Six months ended June 30, 2019	Six months ended June 30, 2018
Cash flows from operating activities:		
Net earnings	$ 664.0	$ 576.7
Discontinued operations, net of tax	7.7	15.3
Adjustments for non-cash transactions:		
Depreciation and amortization	186.9	187.8
Changes in assets and liabilities, net	(547.7)	(466.4)
Other non-cash items, net	110.7	101.1
Net cash provided by (used in) continuing operating activities	421.6	414.5
Net cash provided by (used in) discontinued operating activities	(27.9)	(36.8)
Net cash provided by (used in) operating activities	393.7	377.7
Cash flows from investing activities:		
Capital expenditures	(116.7)	(163.4)
Acquisitions and equity method investments, net of cash acquired	(1,477.6)	(281.5)
Other investing activities, net	7.0	—
Net cash provided by (used in) continuing investing activities	(1,587.3)	(444.9)
Cash flows from financing activities:		
Short-term borrowings (payments), net	179.0	242.6
Proceeds from long-term debt	1,497.9	1,147.0
Payments of long-term debt	(7.5)	(1,122.9)
Net proceeds from (payments of) debt	1,669.4	266.7
Debt issuance costs	(11.9)	(11.6)
Dividends paid to ordinary shareholders	(259.4)	(221.8)
Dividends paid to noncontrolling interests	(9.3)	(35.5)
Repurchase of ordinary shares	(250.0)	(500.1)
Other financing activities, net	20.5	10.9
Net cash provided by (used in) continuing financing activities	1,159.3	(491.4)
Effect of exchange rate changes on cash and cash equivalents	6.5	(21.3)
Net increase (decrease) in cash and cash equivalents	(27.8)	(579.9)
Cash and cash equivalents - beginning of period	903.4	1,549.4
Cash and cash equivalents - end of period	$ 875.6	$ 969.5

See accompanying notes to Condensed Consolidated Financial Statements.

INGERSOLL-RAND PLC
NOTES TO CONDENSED CONSOLIDATED FINANCIAL STATEMENTS
(Unaudited)

Note 1. Basis of Presentation

The accompanying unaudited Condensed Consolidated Financial Statements of Ingersoll-Rand plc (Plc or Parent Company), a public limited company incorporated in Ireland in 2009, and its consolidated subsidiaries (collectively, the Company), reflect the consolidated operations of the Company and have been prepared in accordance with United States Securities and Exchange Commission (SEC) interim reporting requirements. Accordingly, the accompanying Condensed Consolidated Financial Statements do not include all disclosures required by accounting principles generally accepted in the United States of America (GAAP) for full financial statements and should be read in conjunction with the consolidated financial statements included in the Ingersoll-Rand plc Annual Report on Form 10-K for the year ended December 31, 2018 . In the opinion of management, the accompanying Condensed Consolidated Financial Statements contain all adjustments, which include only normal recurring adjustments, necessary to fairly state the condensed consolidated results for the interim periods presented.

Note 2. Proposed Reverse Morris Trust Transaction

In April 2019, the Company and Gardner Denver Holdings, Inc. (GDI) announced that they had entered into definitive agreements pursuant to which the Company will separate its Industrial segment businesses (IR Industrial) by way of spin-off to the Company's shareholders and then combine it with GDI to create a new company focused on flow creation and industrial technologies (IndustrialCo). The Company's remaining HVAC and transport refrigeration businesses, reported under the Climate segment, will focus on climate control solutions for buildings, homes and transportation (ClimateCo). The transaction is expected to close by early 2020, subject to approval by GDI's shareholders, regulatory approvals and customary closing conditions.

The transaction will be effected through a "Reverse Morris Trust" transaction, pursuant to which IR Industrial is expected to be spun-off to the Company's shareholders and simultaneously merged with and surviving as a wholly-owned subsidiary of GDI. At the time of close, ClimateCo will receive $1.9 billion in cash from IR Industrial that will be funded by newly-issued debt and assumed by GDI in the merger. Upon close of the transaction, existing shareholders of the Company will receive 50.1% of the shares of IndustrialCo on a fully diluted basis. Existing GDI shareholders will receive 49.9% of the shares of IndustrialCo on a fully diluted basis. The transaction is expected to be tax-free to both the Company's and GDI's respective shareholders for U.S. federal income tax purposes.

Note 3. Recent Accounting Pronouncements

The Financial Accounting Standards Board (FASB) Accounting Standards Codification (ASC) is the sole source of authoritative GAAP other than SEC issued rules and regulations that apply only to SEC registrants. The FASB issues an Accounting Standards Update (ASU) to communicate changes to the codification. The Company considers the applicability and impact of all ASU's. ASU's not listed below were assessed and determined to be either not applicable or are not expected to have a material impact on the consolidated financial statements.

Recently Adopted Accounting Pronouncements

In February 2018, the FASB issued ASU 2018-02, "Reclassification of Certain Tax Effects from Accumulated Other Comprehensive Income" (ASU 2018-02), which allows companies to reclassify stranded tax effects in *Accumulated other comprehensive income (loss)* that have been caused by the Tax Cuts and Jobs Act of 2017 (the Act) to *Retained earnings* for each period in which the effect of the change in the U.S. federal corporate income tax rate is recorded . ASU 2018-02 is effective for annual reporting periods beginning after December 15, 2018, however, the FASB made the reclassification optional. As a result, the Company assessed the impact of the ASU on its financial statements and did not exercise the option to reclassify the stranded tax effects caused by the Act.

In February 2016, the FASB issued ASU 2016-02, "Leases" (ASC 842), which requires the lease rights and obligations arising from lease contracts, including existing and new arrangements, to be recognized as assets and liabilities on the balance sheet. The Company adopted this standard using a modified-retrospective approach as of January 1, 2019. Under this approach, the Company recognized and recorded a right-of-use (ROU) asset and related lease liability on the Condensed Consolidated Balance Sheet of $521 million with no impact to *Retained earnings* . Reporting periods prior to January 1, 2019 continue to be presented in accordance with previous lease accounting guidance under GAAP. As part of the adoption, the Company elected the package of practical expedients permitted under the transition guidance which includes the ability to carry forward historical lease classification. Refer to Note 10, "Leases," for a further discussion on the adoption of ASC 842.

Recently Issued Accounting Pronouncements

In August 2018, the FASB issued ASU 2018-15, "Customer's Accounting for Implementation Costs Incurred in a Cloud Computing Arrangement that is a Service Contract" (ASU 2018-15), which aligns the requirements for capitalizing implementation costs in a cloud-computing arrangement service contract with the requirements for capitalizing implementation costs incurred to develop or obtain internal-use software. In addition, the guidance also clarifies the presentation requirements for reporting such costs in the financial statements. ASU 2018-15 is effective for annual reporting periods beginning after December 15, 2019 with early adoption permitted. Upon adoption, the Company will apply the ASU on a prospective basis and does not expect it to have a material impact on its financial statements.

In June 2016, the FASB issued ASU 2016-13, "Financial Instruments - Credit Losses" (ASU 2016-13) which changes the impairment model for most financial assets and certain other instruments from an incurred loss model to an expected loss model. In addition, the guidance also requires incremental disclosures regarding allowances and credit quality indicators. ASU 2016-13 is required to be adopted using the modified-retrospective approach and will be effective in fiscal years beginning after December 15, 2019, including interim periods within those fiscal years, with early adoption permitted. The Company is currently assessing the impact of the ASU on its financial statements.

Note 4. Inventories

Depending on the business, U.S. inventories are stated at the lower of cost or market using the last-in, first-out (LIFO) method or the lower of cost or market using the first-in, first-out (FIFO) method. Non-U.S. inventories are primarily stated at the lower of cost or market using the FIFO method.

The major classes of inventory were as follows:

In millions	June 30, 2019	December 31, 2018
Raw materials	$ 629.0	$ 550.5
Work-in-process	244.1	182.0
Finished goods	1,162.7	1,028.8
	2,035.8	1,761.3
LIFO reserve	(85.3)	(83.5)
Total	$ 1,950.5	$ 1,677.8

The Company performs periodic assessments to determine the existence of obsolete, slow-moving and non-saleable inventories and records necessary provisions to reduce such inventories to net realizable value. Reserve balances, primarily related to obsolete and slow-moving inventories, were $ 127.8 million and $ 119.9 million at June 30, 2019 and December 31, 2018 , respectively.

Note 5. Goodwill

The Company records as goodwill the excess of the purchase price over the fair value of the net assets acquired in a business combination. Measurement period adjustments may be recorded once a final valuation has been performed. Goodwill is tested and reviewed annually for impairment during the fourth quarter or whenever there is a significant change in events or circumstances that indicate that the fair value of the asset may be less than the carrying amount of the asset.

The changes in the carrying amount of goodwill for the six months ended June 30, 2019 were as follows:

In millions	Climate	Industrial	Total
Net balance as of December 31, 2018	$ 5,099.2	$ 860.3	$ 5,959.5
Acquisitions (1)	15.6	888.0	903.6
Currency translation	(1.7)	(1.8)	(3.5)
Net balance as of June 30, 2019	$ 5,113.1	$ 1,746.5	$ 6,859.6

(1) Refer to Note 18, "Acquisitions and Divestitures" for more information regarding recent acquisitions.

The net goodwill balances at June 30, 2019 and December 31, 2018 include $ 2,496.0 million of accumulated impairment. The accumulated impairment relates entirely to a charge in the fourth quarter of 2008 associated with the Climate segment.

Note 6. Intangible Assets

Indefinite-lived intangible assets are tested and reviewed annually for impairment during the fourth quarter or whenever there is a significant change in events or circumstances that indicate that the fair value of the asset may be less than the carrying amount of the asset. All other intangible assets with finite useful lives are amortized on a straight-line basis over their estimated useful lives.

The gross amount of the Company's intangible assets and related accumulated amortization were as follows:

	June 30, 2019			December 31, 2018		
In millions	Gross carrying amount	Accumulated amortization	Net carrying amount	Gross carrying amount	Accumulated amortization	Net carrying amount
Customer relationships	$ 2,552.7	$ (1,243.6)	$ 1,309.1	$ 2,086.8	$ (1,176.3)	$ 910.5
Completed technologies/patents	208.0	(185.0)	23.0	206.6	(182.0)	24.6
Other	121.0	(60.3)	60.7	84.5	(54.4)	30.1
Total finite-lived intangible assets	2,881.7	(1,488.9)	1,392.8	2,377.9	(1,412.7)	965.2
Trademarks (indefinite-lived)	2,837.5	—	2,837.5	2,669.5	—	2,669.5
Total	$ 5,719.2	$ (1,488.9)	$ 4,230.3	$ 5,047.4	$ (1,412.7)	$ 3,634.7

Intangible asset amortization expense was $41.2 million and $35.2 million for the three months ended June 30, 2019 and 2018 , respectively. Intangible asset amortization expense was $75.9 million and $70.4 million for the six months ended June 30, 2019 and 2018 , respectively.

Note 7. Debt and Credit Facilities

Short-term borrowings and current maturities of long-term debt consisted of the following:

In millions	June 30, 2019	December 31, 2018
Debentures with put feature	$ 343.0	$ 343.0
2.625% Senior notes due 2020 (1)	299.6	—
Commercial Paper	179.0	—
Other current maturities of long-term debt	7.6	7.6
Total	$ 829.2	$ 350.6

(1) During the second quarter of 2019, the Company reclassified its 2.625% Senior notes due May 2020 from noncurrent to current.

Commercial Paper Program

The Company uses borrowings under its commercial paper program for general corporate purposes. The maximum aggregate amount of unsecured commercial paper notes available to be issued, on a private placement basis, under the commercial paper program is $ 2.0 billion . The Company had an outstanding balance of $179.0 million under its commercial paper program as of June 30, 2019 . No amounts were outstanding at December 31, 2018 .

Debentures with Put Feature

At June 30, 2019 and December 31, 2018 , the Company had $343.0 million of fixed rate debentures outstanding which contain a put feature that the holders may exercise on each anniversary of the issuance date. If exercised, the Company is obligated to repay in whole or in part, at the holder's option, the outstanding principal amount of the debentures plus accrued interest. If these options are not exercised, the final contractual maturity dates would range between 2027 and 2028 . Holders of these debentures had the option to exercise the put feature on $37.2 million of the outstanding debentures in February 2019, subject to the notice requirement. No material exercises were made.

Long-term debt , excluding current maturities, consisted of the following:

In millions		**June 30, 2019**		**December 31, 2018**
2.625% Senior notes due 2020 (1)	$	—	$	299.4
2.900% Senior notes due 2021		298.7		298.3
9.000% Debentures due 2021		124.9		124.9
4.250% Senior notes due 2023		697.5		697.1
7.200% Debentures due 2020-2025		37.3		44.8
3.550% Senior notes due 2024		496.3		495.9
6.480% Debentures due 2025		149.7		149.7
3.500% Senior notes due 2026		396.5		—
3.750% Senior notes due 2028		544.8		544.5
3.800% Senior notes due 2029		743.2		—
5.750% Senior notes due 2043		494.4		494.3
4.650% Senior notes due 2044		295.8		295.8
4.300% Senior notes due 2048		295.9		295.9
4.500% Senior notes due 2049		345.4		—
Other loans and notes		0.2		0.1
Total	$	4,920.6	$	3,740.7

(1) During the second quarter of 2019, the Company reclassified its 2.625% Senior notes due May 2020 from noncurrent to current.

Issuance of Senior Notes

In March 2019, the Company issued $1.5 billion principal amount of senior notes in three tranches through Ingersoll-Rand Luxembourg Finance S.A., an indirect, wholly-owned subsidiary. The tranches consist of $400 million aggregate principal amount of 3.500% senior notes due 2026, $750 million aggregate principal amount of 3.800% senior notes due 2029 and $350 million aggregate principal amount of 4.500% senior notes due 2049. The notes are fully and unconditionally guaranteed by each of Ingersoll Rand plc, Ingersoll-Rand Global Holding Company Limited, Ingersoll-Rand Lux International Holding Company S.à.r.l, Ingersoll-Rand Irish Holdings Unlimited Company, and Ingersoll-Rand Company. The Company has the option to redeem the notes in whole or in part at any time, prior to their stated maturity date at redemption prices set forth in the indenture agreement. The notes are subject to certain customary covenants, however, none of these covenants are considered restrictive to the Company’s operations. The Company used the net proceeds to finance the acquisition of Precision Flow Systems and for general corporate purposes. During the three months ended March 31, 2019, the Company capitalized $13.1 million of debt issuance costs which will be amortized over the remaining life of the debt.

Other Credit Facilities

The Company maintains two 5-year, $ 1.0 billion revolving credit facilities (the Facilities) through its wholly-owned subsidiaries, Ingersoll-Rand Global Holding Company Limited and Ingersoll-Rand Luxembourg Finance S.A. (collectively, the Borrowers). Each senior unsecured credit facility, one of which matures in March 2021 and the other in April 2023, provides support for the Company's commercial paper program and can be used for working capital and other general corporate purposes. Ingersoll-Rand plc, Ingersoll-Rand Irish Holdings Unlimited Company, Ingersoll-Rand Lux International Holding Company S.à.r.l. and Ingersoll-Rand Company each provide irrevocable and unconditional guarantees for these Facilities. In addition, each Borrower will guarantee the obligations under the Facilities of the other Borrower. Total commitments of $ 2.0 billion were unused at June 30, 2019 and December 31, 2018 .

Fair Value of Debt

The carrying value of the Company's short-term borrowings is a reasonable estimate of fair value due to the short-term nature of the instruments. The fair value of the Company's debt instruments at June 30, 2019 and December 31, 2018 was $6.2 billion and $4.2 billion , respectively. The Company measures the fair value of its long-term debt instruments for disclosure purposes based upon observable market prices quoted on public exchanges for similar assets. These fair value inputs are considered Level 2 within the fair value hierarchy. The methodologies used by the Company to determine the fair value of its long-term debt instruments at June 30, 2019 are the same as those used at December 31, 2018 .

Note 8. Financial Instruments

In the normal course of business, the Company is exposed to certain risks arising from business operations and economic factors. These fluctuations can increase the cost of financing, investing and operating the business. The Company may use various financial instruments, including derivative instruments, to manage the risks associated with interest rate, commodity price and foreign currency exposures. These financial instruments are not used for trading or speculative purposes. The Company recognizes all derivatives on the Consolidated Balance Sheet at their fair value as either assets or liabilities.

On the date a derivative contract is entered into, the Company designates the derivative instrument as a cash flow hedge of a forecasted transaction or as an undesignated derivative. The Company formally documents its hedge relationships, including identification of the derivative instruments and the hedged items, as well as its risk management objectives and strategies for undertaking the hedge transaction. This process includes linking derivative instruments that are designated as hedges to specific assets, liabilities or forecasted transactions.

The Company assesses at inception and at least quarterly thereafter, whether the derivatives used in cash flow hedging transactions are highly effective in offsetting the changes in the cash flows of the hedged item. To the extent the derivative is deemed to be a highly effective hedge, the fair market value changes of the instrument are recorded to *Accumulated other comprehensive income* (AOCI). If the hedging relationship ceases to be highly effective, or it becomes probable that a forecasted transaction is no longer expected to occur, the hedging relationship will be undesignated and any future gains and losses on the derivative instrument will be recorded in *Net earnings* .

The fair values of derivative instruments included within the Condensed Consolidated Balance Sheets were as follows:

	Derivative assets		Derivative liabilities	
In millions	**June 30, 2019**	**December 31, 2018**	**June 30, 2019**	**December 31, 2018**
Derivatives designated as hedges:				
Currency derivatives	$ 1.3	$ 1.3	$ 1.3	$ 0.7
Derivatives not designated as hedges:				
Currency derivatives	0.5	0.9	0.5	0.6
Total derivatives	$ 1.8	$ 2.2	$ 1.8	$ 1.3

Asset and liability derivatives included in the table above are recorded within *Other current assets* and *Accrued expenses and other current liabilities* , respectively.

Currency Derivative Instruments

The notional amount of the Company's currency derivatives was $ 0.4 billion and $ 0.6 billion at June 30, 2019 and December 31, 2018 , respectively. At June 30, 2019 and December 31, 2018 , a net gain of $ 0.1 million and $ 0.5 million , net of tax, respectively, was included in AOCI related to the fair value of the Company's currency derivatives designated as accounting hedges. The amount expected to be reclassified into *Net earnings* over the next twelve months is a gain of $ 0.1 million . The actual amounts that will be reclassified to *Net earnings* may vary from this amount as a result of changes in market conditions. Gains and losses associated with the Company's currency derivatives not designated as hedges are recorded in *Net earnings* as changes in fair value occur. At June 30, 2019 , the maximum term of the Company's currency derivatives was approximately 12 months, except for currency derivatives in place related to a certain long-term contract.

Other Derivative Instruments

Prior to 2015, the Company utilized forward-starting interest rate swaps and interest rate locks to manage interest rate exposure in periods prior to the anticipated issuance of certain fixed-rate debt. These instruments were designated as cash flow hedges and had a notional amount of $ 1.3 billion . Consequently, when the contracts were settled upon the issuance of the underlying debt, any realized gains or losses in the fair values of the instruments were deferred into AOCI. These deferred gains or losses are subsequently recognized in *Interest expense* over the term of the related notes. The net unrecognized gain in AOCI was $ 6.3 million at June 30, 2019 and $6.7 million at December 31, 2018 . The net deferred gain at June 30, 2019 will continue to be amortized over the term of notes with maturities ranging from 2023 to 2044. The amount expected to be amortized over the next twelve months is a net gain of $ 0.7 million . The Company has no forward-starting interest rate swaps or interest rate lock contracts outstanding at June 30, 2019 or December 31, 2018 .

The following table represents the amounts associated with derivatives designated as hedges affecting *Net earnings* and AOCI for the three months ended June 30 :

	Amount of gain (loss) recognized in AOCI		Location of gain (loss) reclassified from AOCI and recognized into Net earnings	Amount of gain (loss) reclassified from AOCI and recognized into Net earnings	
In millions	**2019**	**2018**		**2019**	**2018**
Currency derivatives designated as hedges	$ 1.1	$ (0.7)	Cost of goods sold	$ (0.9)	$ 0.1
Interest rate swaps & locks	—	—	Interest expense	0.1	0.2
Total	$ 1.1	$ (0.7)		$ (0.8)	$ 0.3

The following table represents the amounts associated with derivatives not designated as hedges affecting *Other income/(expense), net* for the three months ended June 30 :

	Amount of gain (loss) recognized in Net earnings	
In millions	**2019**	**2018**
Currency derivatives not designated as hedges	$ (1.1)	$ (29.6)
Total	$ (1.1)	$ (29.6)

The following table represents the amounts associated with derivatives designated as hedges affecting *Net earnings* and AOCI for the six months ended June 30 :

	Amount of gain (loss) recognized in AOCI		Location of gain (loss) reclassified from AOCI and recognized into Net earnings	Amount of gain (loss) reclassified from AOCI and recognized into Net earnings	
In millions	**2019**	**2018**		**2019**	**2018**
Currency derivatives designated as hedges	$ (0.4)	$ 1.4	Cost of goods sold	$ (1.2)	$ (0.3)
Interest rate swaps & locks	—	—	Interest expense	0.3	(0.4)
Total	$ (0.4)	$ 1.4		$ (0.9)	$ (0.7)

The following table represents the amounts associated with derivatives not designated as hedges affecting *Other income/(expense), net* for the six months ended June 30 :

	Amount of gain (loss) recognized in Net earnings	
In millions	**2019**	**2018**
Currency derivatives not designated as hedges	$ (4.2)	$ (23.1)
Total	$ (4.2)	$ (23.1)

The gains and losses associated with the Company’s undesignated currency derivatives are materially offset in *Other income/(expense), net* by changes in the fair value of the underlying transactions.

The following table presents the effects of the Company's designated financial instruments on the associated financial statement line item within the Consolidated Statement of Comprehensive Income where the financial instruments are recorded for the three months ended June 30 :

	Classification and amount of gain (loss) recognized in income on cash flow hedging relationships			
	2019		2018	
In millions	Cost of goods sold	Interest expense	Cost of goods sold	Interest expense
Total amounts presented in the Consolidated Statements of Comprehensive Income	$ (3,094.1)	$ (64.7)	$ (2,964.1)	$ (50.3)
Gain (loss) on cash flow hedging relationships				
Currency derivatives:				
Amount of gain (loss) reclassified from AOCI and recognized into Net earnings	$ (0.9)	$ —	$ 0.1	$ —
Amount excluded from effectiveness testing recognized in net earnings based on changes in fair value and amortization	$ (0.9)	$ —	$ —	$ —
Interest rate swaps & locks:				
Amount of gain (loss) reclassified from AOCI and recognized into Net earnings	$ —	$ 0.1	$ —	$ 0.2

The following table presents the effects of the Company's designated financial instruments on the associated financial statement line item within the Consolidated Statement of Comprehensive Income where the financial instruments are recorded for the six months ended June 30 :

	Classification and amount of gain (loss) recognized in income on cash flow hedging relationships			
	2019		2018	
In millions	Cost of goods sold	Interest expense	Cost of goods sold	Interest expense
Total amounts presented in the Consolidated Statements of Comprehensive Income	$ (5,611.4)	$ (115.6)	$ (5,384.3)	$ (123.2)
Gain (loss) on cash flow hedging relationships				
Currency derivatives:				
Amount of gain (loss) reclassified from AOCI and recognized into Net earnings	$ (1.2)	$ —	$ (0.3)	$ —
Amount excluded from effectiveness testing recognized in net earnings based on changes in fair value and amortization	$ (1.5)	$ —	$ —	$ —
Interest rate swaps & locks:				
Amount of gain (loss) reclassified from AOCI and recognized into Net earnings	$ —	$ 0.3	$ —	$ (0.4)

Concentration of Credit Risk

The counterparties to the Company’s forward contracts consist of a number of investment grade major international financial institutions. The Company could be exposed to losses in the event of nonperformance by the counterparties. However, the credit ratings and the concentration of risk in these financial institutions are monitored on a continuous basis and present no significant credit risk to the Company.

Note 9. Fair Value Measurements

ASC 820, "Fair Value Measurement," (ASC 820) defines fair value 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. ASC 820 also establishes a three-level fair value hierarchy that prioritizes information used in developing assumptions when pricing an asset or liability as follows:

- *Level 1:* Observable inputs such as quoted prices in active markets;
- *Level 2:* Inputs, other than quoted prices in active markets, that are observable either directly or indirectly; and

- *Level 3:* Unobservable inputs where there is little or no market data, which requires the reporting entity to develop its own assumptions.

ASC 820 requires the use of observable market data, when available, in making fair value measurements. 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.

The following table presents the Company's fair value hierarchy for those assets and liabilities measured at fair value on a recurring basis as of June 30, 2019 :

		Fair value measurements		
In millions	**Fair Value**	**Level 1**	**Level 2**	**Level 3**
Assets:				
Derivative instruments	$ 1.8	$ —	$ 1.8	$ —
Liabilities:				
Derivative instruments	$ 1.8	$ —	$ 1.8	$ —

The following table presents the Company's fair value hierarchy for those assets and liabilities measured at fair value on a recurring basis as of December 31, 2018 :

		Fair value measurements		
In millions	**Fair Value**	**Level 1**	**Level 2**	**Level 3**
Assets:				
Derivative instruments	$ 2.2	$ —	$ 2.2	$ —
Liabilities:				
Derivative instruments	$ 1.3	$ —	$ 1.3	$ —

Derivative instruments include forward foreign currency contracts and instruments related to non-functional currency balance sheet exposures. The fair value of the derivative instruments are determined based on a pricing model that uses spot rates and forward prices from actively quoted currency markets that are readily accessible and observable.

The carrying values of cash and cash equivalents, accounts receivable, and accounts payable are a reasonable estimate of their fair value due to the short-term nature of these instruments. These methodologies used by the Company to determine the fair value of its financial assets and liabilities at June 30, 2019 are the same as those used at December 31, 2018 . There have been no transfers between levels of the fair value hierarchy.

Note 10. Leases

The Company's lease portfolio includes various contracts for real estate, vehicles, information technology and other equipment. At contract inception, the Company determines a lease exists if the contract conveys the right to control an identified asset for a period of time in exchange for consideration. Control is considered to exist when the lessee has the right to obtain substantially all of the economic benefits from the use of an identified asset as well as the right to direct the use of that asset. If a contract is considered to be a lease, the Company recognizes a lease liability based on the present value of the future lease payments, with an offsetting entry to recognize a right-of-use asset. Options to extend or terminate a lease are included when it is reasonably certain an option will be exercised. As a majority of the Company's leases do not provide an implicit rate within the lease, an incremental borrowing rate is used which is based on information available at the commencement date.

The following table includes a summary of the Company's lease portfolio and Balance Sheet classification:

In millions	Classification	June 30, 2019	January 1, 2019
Assets			
Operating lease right-of-use assets [(1)]	Other noncurrent assets	$ 561.2	$ 517.1
Liabilities			
Operating lease current	Other current liabilities	171.1	160.3
Operating lease noncurrent	Other noncurrent liabilities	394.7	360.5

(1) Per ASC 842, prepaid lease payments and lease incentives are recorded as part of the right-of-use asset. The net impact was $4.6 million and $3.7 million at June 30, 2019 and January 1, 2019, respectively.

The Company elected the practical expedient as an accounting policy election by class of underlying asset to account for each separate lease component of a contract and its associated non-lease component as a single lease component. This practical expedient was applied to all underlying asset classes. In addition, the Company elected the practical expedient to utilize a portfolio approach for the vehicle, information technology and equipment asset classes as the application of the lease model to the portfolio would not differ materially from the application of the lease model to the individual leases within the portfolio.

The following table includes lease costs and related cash flow information for the three and six months ended June 30, 2019 :

In millions	Three months ended	Six months ended
Operating lease expense	$ 50.6	$ 100.3
Variable lease expense	7.0	14.4
Cash paid for amounts included in the measurement of lease liabilities:		
Operating cash flows from operating leases	50.2	99.6
Right-of-use assets obtained in exchange for new operating lease liabilities	43.8	101.6

Operating lease expense is recognized on a straight-line basis over the lease term. In addition, the Company has certain leases that contain variable lease payments which are based on an index, a rate referenced in the lease or on the actual usage of the leased asset. These payments are not included in the right-to-use asset or lease liability and are expensed as incurred as variable lease expense. The Company elected the practical expedient as an accounting policy election by class of underlying asset to not apply the balance sheet recognition criteria required in ASC 842 to leases with an initial lease term of twelve months or less. Payments for these leases are recognized on a straight-line basis over the lease term.

Maturities of lease obligations were as follows:

In millions	June 30, 2019
Operating leases	
Remaining six months of 2019	$ 100.2
2020	171.1
2021	131.3
2022	84.0
2023	55.4
After 2023	85.9
Total lease payments	$ 627.9
Less: Interest	(62.1)
Present value of lease liabilities	$ 565.8

At June 30, 2019 , the weighted average remaining lease term was 4.7 years years with a weighted average discount rate of 3.8% .

Prior Period Disclosures

As a result of adopting ASC 842 on January 1, 2019, the Company is required to present future minimum lease commitments for operating leases having initial or noncancellable lease terms in excess of one year that were previously disclosed in our 2018 Annual Report on Form 10-K and accounted for under previous lease guidance. Commitments as of December 31, 2018 were as follows:

In millions	December 31, 2018
Operating leases	
2019	$ 197.1
2020	152.0
2021	107.4
2022	68.4
2023	42.2
After 2023	42.7
Total	$ 609.8

Note 11. Pensions and Postretirement Benefits Other than Pensions

The Company sponsors several U.S. defined benefit and defined contribution plans covering substantially all of the Company's U.S. employees. Additionally, the Company has many non-U.S. defined benefit and defined contribution plans covering eligible non-U.S. employees. Postretirement benefits other than pensions (OPEB) provide healthcare benefits, and in some instances, life insurance benefits for certain eligible employees.

Pension Plans

The noncontributory defined benefit pension plans covering non-collectively bargained U.S. employees provide benefits on a final average pay formula while plans for most collectively bargained U.S. employees provide benefits on a flat dollar benefit formula or a percentage of pay formula. The non-U.S. pension plans generally provide benefits based on earnings and years of service. The Company also maintains additional other supplemental plans for officers and other key or highly compensated employees.

The components of the Company’s net periodic pension benefit cost for the three and six months ended June 30 were as follows:

	Three months ended		Six months ended	
In millions	2019	2018	2019	2018
Service cost	$ 18.1	$ 17.9	$ 36.2	$ 35.8
Interest cost	29.8	26.9	59.6	53.9
Expected return on plan assets	(34.6)	(36.7)	(69.2)	(73.6)
Net amortization of:				
Prior service costs	1.2	1.0	2.4	2.1
Net actuarial (gains) losses	13.3	12.5	26.7	25.0
Net periodic pension benefit cost	$ 27.8	$ 21.6	$ 55.7	$ 43.2
Net curtailment and settlement (gains) losses	—	1.2	1.6	1.2
Net periodic pension benefit cost after net curtailment and settlement (gains) losses	$ 27.8	$ 22.8	$ 57.3	$ 44.4
Amounts recorded in continuing operations:				
Operating income	$ 17.1	$ 16.9	$ 34.2	$ 34.5
Other income/(expense), net	7.7	3.8	17.1	5.7
Amounts recorded in discontinued operations	3.0	2.1	6.0	4.2
Total	$ 27.8	$ 22.8	$ 57.3	$ 44.4

The Company made contributions to its defined benefit pension plans of $ 37.1 million and $ 30.0 million during the six months ended June 30, 2019 and 2018 , respectively. The Company currently projects that it will contribute approximately $104 million to its plans worldwide in 2019.

Postretirement Benefits Other Than Pensions

The Company sponsors several postretirement plans that provide for healthcare benefits, and in some instances, life insurance benefits that cover certain eligible employees. These plans are unfunded and have no plan assets, but are instead funded by the Company on a pay-as-you-go basis in the form of direct benefit payments. Generally, postretirement health benefits are contributory with contributions adjusted annually. Life insurance plans for retirees are primarily noncontributory.

The components of net periodic postretirement benefit cost for the three and six months ended June 30 were as follows:

	Three months ended		Six months ended	
In millions	2019	2018	2019	2018
Service cost	$ 0.6	$ 0.7	$ 1.2	$ 1.4
Interest cost	3.9	3.8	7.8	7.6
Net amortization of:				
Prior service gains	(0.1)	(1.0)	(0.2)	(2.0)
Net actuarial (gains) losses	(1.6)	—	(3.2)	—
Net periodic postretirement benefit cost	$ 2.8	$ 3.5	$ 5.6	$ 7.0
Amounts recorded in continuing operations:				
Operating income	$ 0.6	$ 0.7	$ 1.2	$ 1.4
Other income/(expense), net	1.6	2.0	3.3	4.0
Amounts recorded in discontinued operations	0.6	0.8	1.1	1.6
Total	$ 2.8	$ 3.5	$ 5.6	$ 7.0

Note 12. Equity

The authorized share capital of Ingersoll-Rand plc is 1,185,040,000 shares, consisting of (1) 1,175,000,000 ordinary shares, par value $ 1.00 per share, (2) 40,000 ordinary shares, par value EUR 1.00 and (3) 10,000,000 preference shares, par value $ 0.001 per share. There were no Euro-denominated ordinary shares or preference shares outstanding at June 30, 2019 or December 31, 2018 .

Changes in ordinary shares and treasury shares for the six months ended June 30, 2019 were as follows:

In millions	Ordinary shares issued	Ordinary shares held in treasury
December 31, 2018	266.4	24.5
Shares issued under incentive plans, net	1.9	—
Repurchase of ordinary shares	(2.4)	—
June 30, 2019	265.9	24.5

Share repurchases are made from time to time in accordance with management's capital allocation strategy, subject to market conditions and regulatory requirements. Shares acquired and canceled upon repurchase are accounted for as a reduction of *Ordinary Shares* and *Capital in excess of par value* , or *Retained earnings* to the extent *Capital in excess of par value* is exhausted. Shares acquired and held in treasury are presented separately on the balance sheet as a reduction to *Equity* and recognized at cost. In October 2018, the Company's Board of Directors authorized the repurchase of up to $1.5 billion of its ordinary shares under a share repurchase program (2018 Authorization) upon completion of the prior authorized share repurchase program. During the six months ended June 30, 2019, the Company repurchased and canceled approximately $250 million of its ordinary shares leaving approximately $1.25 billion remaining under the 2018 Authorization.

Accumulated Other Comprehensive Income (Loss)

The changes in *Accumulated other comprehensive income (loss)* for the six months ended June 30, 2019 was as follows:

In millions	**Derivative Instruments**	**Pension and OPEB**	**Foreign Currency Translation**	**Total**
Balance at December 31, 2018	$ 6.7	$ (454.0)	$ (516.8)	$ (964.1)
Other comprehensive income (loss) before reclassifications	(0.4)	1.8	2.3	3.7
Amounts reclassified from AOCI	0.9	25.7	—	26.6
Benefit from (provision for) income taxes	0.2	(5.6)	—	(5.4)
Net current period other comprehensive income (loss)	$ 0.7	$ 21.9	$ 2.3	$ 24.9
Balance at June 30, 2019	$ 7.4	$ (432.1)	$ (514.5)	$ (939.2)

The changes in *Accumulated other comprehensive income (loss)* for the six months ended June 30, 2018 was as follows:

In millions	**Derivative Instruments**	**Pension and OPEB**	**Foreign Currency Translation**	**Total**
Balance at December 31, 2017	$ 4.7	$ (494.3)	$ (289.2)	$ (778.8)
Other comprehensive income (loss) before reclassifications	1.4	4.8	(151.0)	(144.8)
Amounts reclassified from AOCI	0.7	25.1	—	25.8
Benefit from (provision for) income taxes	(0.3)	(6.5)	—	(6.8)
Net current period other comprehensive income (loss)	$ 1.8	$ 23.4	$ (151.0)	$ (125.8)
Balance at June 30, 2018	$ 6.5	$ (470.9)	$ (440.2)	$ (904.6)

The reclassifications out of *Accumulated other comprehensive income (loss)* for the three and six months ended June 30 were as follows:

	Three months ended		**Six months ended**	
In millions	**2019**	**2018**	**2019**	**2018**
Derivative Instruments				
Reclassifications of deferred (gains) losses (1)	$ 0.8	$ (0.3)	$ 0.9	$ 0.7
Provision for (benefit from) income taxes	0.1	—	(0.2)	0.2
Reclassifications, net of taxes	$ 0.9	$ (0.3)	$ 0.7	$ 0.9
Pension and Postretirement benefits				
Amortization of service costs (2)	$ 1.1	$ —	$ 2.2	$ 0.1
Amortization of actuarial losses (2)	11.7	12.5	23.5	25.0
Provision for (benefit from) income taxes	(2.1)	(3.9)	(5.6)	(6.5)
Reclassifications, net of taxes	$ 10.7	$ 8.6	$ 20.1	$ 18.6
Total reclassifications, net of taxes	$ 11.6	$ 8.3	$ 20.8	$ 19.5

(1) Reclassifications of interest rate swaps and locks are reflected within *Interest expense* ; reclassifications of currency derivatives designated as hedges are reflected in *Cost of goods sold* .

(2) Reclassifications of the service cost component of pension and postretirement benefit costs are reflected within *Operating income* ; the remaining components are included within *Other income/(expense), net* .

Note 13. Revenue

The Company recognizes revenue when control of a good or service promised in a contract (i.e., performance obligation) is transferred to a customer. Control is obtained when a customer has the ability to direct the use of and obtain substantially all of the remaining benefits from that good or service. A majority of the Company's revenues are recognized at a point-in-time as control is transferred at a distinct point in time per the terms of a contract. However, a portion of the Company's revenues are recognized over time as the customer simultaneously receives control as the Company performs work under a contract.

Disaggregated Revenue

Net revenues by destination for the three and six months ended June 30 were as follows:

	Three months ended		Six months ended	
In millions	2019	2018	2019	2018
Climate				
United States	$ 2,600.5	$ 2,410.4	$ 4,540.5	$ 4,122.2
Non-U.S.	1,017.1	1,083.4	1,880.8	1,981.4
Total Climate	$ 3,617.6	$ 3,493.8	$ 6,421.3	$ 6,103.6
Industrial				
United States	$ 464.5	$ 450.6	$ 855.3	$ 865.2
Non-U.S.	445.7	413.3	827.1	773.4
Total Industrial	$ 910.2	$ 863.9	$ 1,682.4	$ 1,638.6

Net revenues by major type of good or service for the three and six months ended June 30 were as follows:

	Three months ended		Six months ended	
In millions	2019	2018	2019	2018
Climate				
Equipment	$ 2,545.9	$ 2,454.8	$ 4,484.2	$ 4,226.3
Services and parts	1,071.7	1,039.0	1,937.1	1,877.3
Total Climate	$ 3,617.6	$ 3,493.8	$ 6,421.3	$ 6,103.6
Industrial				
Equipment	$ 568.4	$ 534.9	$ 1,030.6	$ 1,005.5
Services and parts	341.8	329.0	651.8	633.1
Total Industrial	$ 910.2	$ 863.9	$ 1,682.4	$ 1,638.6

Revenue from goods and services transferred to customers at a point in time accounted for approximately 85% of the Company's revenue for the six months ended June 30, 2019 and 2018 .

Contract Balances

The opening and closing balances of contract assets and contract liabilities arising from contracts with customers for the period ended June 30, 2019 and December 31, 2018 were as follows:

In millions	June 30, 2019	December 31, 2018
Contract assets	$ 153.9	$ 210.9
Contract liabilities	941.5	846.2

The timing of revenue recognition, billings and cash collections results in accounts receivable, contract assets, and customer advances and deposits (contract liabilities) on the Condensed Consolidated Balance Sheet. In general, the Company receives payments from customers based on a billing schedule established in its contracts. Contract assets relate to the conditional right to consideration for any completed performance under the contract when costs are incurred in excess of billings under the percentage-of-completion methodology. Accounts receivable are recorded when the right to consideration becomes unconditional. Contract liabilities relate to payments received in advance of performance under the contract or when the Company has a right to consideration that is unconditional before it transfers a good or service to the customer. Contract liabilities are recognized as revenue as (or when) the Company performs under the contract. During the three and six months ended June 30, 2019 , changes in contract asset and liability balances were not materially impacted by any other factors.

Approximately 15% and 45% of the contract liability balance at December 31, 2018 was recognized as revenue during the three and six months ended June 30, 2019 , respectively. Additionally, approximately 28% of the contract liability balance at June 30, 2019 was classified as noncurrent and not expected to be recognized as revenue in the next 12 months.

Note 14. Share-Based Compensation

The Company accounts for stock-based compensation plans in accordance with ASC 718, "Compensation - Stock Compensation" (ASC 718), which requires a fair-value based method for measuring the value of stock-based compensation. Fair value is measured once at the date of grant and is not adjusted for subsequent changes. The Company's share-based compensation plans include programs for stock options, restricted stock units (RSUs), performance share units (PSUs) and deferred compensation.

Compensation Expense

Share-based compensation expense is related to continuing operations and is included in *Selling and administrative expenses* . The expense recognized for the three and six months ended June 30 was as follows:

	Three months ended		Six months ended	
In millions	**2019**	**2018**	**2019**	**2018**
Stock options	$ 2.8	$ 5.7	$ 14.6	$ 18.0
RSUs	5.8	8.7	18.8	22.0
Performance shares	2.5	6.9	6.9	11.3
Deferred compensation	0.6	0.8	1.5	1.8
Other	1.5	0.4	2.9	0.2
Pre-tax expense	13.2	22.5	44.7	53.3
Tax benefit	(3.2)	(5.5)	(10.8)	(13.0)
After-tax expense	$ 10.0	$ 17.0	$ 33.9	$ 40.3

Grants issued during the six months ended June 30 were as follows:

	2019		2018	
	Number granted	**Weighted-average fair value per award**	**Number granted**	**Weighted-average fair value per award**
Stock options	1,271,326	$ 17.13	1,524,625	$ 15.49
RSUs	262,793	$ 102.59	317,073	$ 89.69
Performance shares [(1)]	311,158	$ 111.04	357,096	$ 106.06

(1) The number of performance shares represents the maximum award level.

Stock Options / RSUs

Eligible participants may receive (i) stock options, (ii) RSUs or (iii) a combination of both stock options and RSUs. The fair value of each of the Company's stock option and RSU awards is expensed on a straight-line basis over the required service period, which is generally the 3 -year vesting period. However, for stock options and RSUs granted to retirement eligible employees, the Company recognizes an expense for the entire fair value at the grant date.

The average fair value of the stock options granted is determined using the Black-Scholes option-pricing model. The following assumptions were used during the six months ended June 30 :

	2019	**2018**
Dividend yield	2.09%	2.00%
Volatility	21.46%	21.64%
Risk-free rate of return	2.49%	2.48%
Expected life in years	4.8	4.8

A description of the significant assumptions used to estimate the fair value of the stock option awards is as follows:

- *Volatility* - The expected volatility is based on a weighted average of the Company’s implied volatility and the most recent historical volatility of the Company’s stock commensurate with the expected life.
- *Risk-free rate of return* - The Company applies a yield curve of continuous risk-free rates based upon the published U.S. Treasury spot rates on the grant date.
- *Expected life* - The expected life of the Company’s stock option awards represents the weighted-average of the actual period since the grant date for all exercised or canceled options and an expected period for all outstanding options.
- *Dividend yield* - The Company determines the dividend yield based upon the expected quarterly dividend payments as of the grant date and the current fair market value of the Company’s stock.
- *Forfeiture Rate* - The Company analyzes historical data of forfeited options to develop a reasonable expectation of the number of options to forfeit prior to vesting per year. This expected forfeiture rate is applied to the Company’s ongoing compensation expense; however, all expense is adjusted to reflect actual vestings and forfeitures.

Performance Shares

The Company has a Performance Share Program (PSP) for key employees. The program provides awards in the form of PSUs based on performance against pre-established objectives. The annual target award level is expressed as a number of the Company's ordinary shares based on the fair market value of the Company's stock on the date of grant. All PSUs are settled in the form of ordinary shares.

Beginning with the 2018 grant year, PSU awards are earned based on 50% upon a performance condition, measured by relative Cash Flow Return on Invested Capital (CROIC) to the industrial group of companies in the S&P 500 Index over a 3-year performance period, and 50% upon a market condition, measured by the Company's relative total shareholder return (TSR) as compared to the TSR of the industrial group of companies in the S&P 500 Index over a 3-year performance period. The fair value of the market condition is estimated using a Monte Carlo Simulation approach in a risk-neutral framework based upon historical volatility, risk-free rates and correlation matrix. Awards granted prior to 2018 are earned based on 50% upon a performance condition, measured by relative EPS growth as compared to the industrial group of companies in the S&P 500 Index over a 3-year performance period, and 50% upon a market condition, measured by the Company's relative TSR as compared to the TSR of the industrial group of companies in the S&P 500 Index over a 3-year performance period.

Deferred Compensation

The Company allows key employees to defer a portion of their eligible compensation into a number of investment choices, including its ordinary share equivalents. Any amounts invested in ordinary share equivalents will be settled in ordinary shares of the Company at the time of distribution.

Note 15. Restructuring Activities

The Company incurs costs associated with announced restructuring initiatives intended to result in improved operating performance, profitability and working capital levels. Actions associated with these initiatives may include workforce reduction, improving manufacturing productivity, realignment of management structures and rationalizing certain assets. The following table details restructuring charges recorded during the three and six months ended June 30 :

	Three months ended		Six months ended	
In millions	**2019**	**2018**	**2019**	**2018**
Climate	$ 13.4	$ 4.2	$ 18.6	$ 8.1
Industrial	13.1	1.5	24.1	37.2
Corporate and Other	(0.1)	1.4	0.8	6.2
Total	$ 26.4	$ 7.1	$ 43.5	$ 51.5
Cost of goods sold	$ 22.5	$ 2.5	$ 36.3	$ 39.0
Selling and administrative expenses	3.9	4.6	7.2	12.5
Total	$ 26.4	$ 7.1	$ 43.5	$ 51.5

The changes in the restructuring reserve for the six months ended June 30, 2019 were as follows:

In millions	Climate	Industrial	Corporate and Other	Total
December 31, 2018	$ 18.9	$ 29.9	$ 2.6	$ 51.4
Additions, net of reversals (1)	18.6	10.5	0.8	29.9
Cash paid/other	(17.9)	(18.9)	(1.6)	(38.4)
June 30, 2019	$ 19.6	$ 21.5	$ 1.8	$ 42.9

(1) Excludes the non-cash costs of asset rationalizations ($13.6 million).

Current restructuring actions include general workforce reductions as well as the closure and consolidation of certain manufacturing facilities in an effort to improve the Company's cost structure. During the six months ended June 30, 2019 , costs associated with announced restructuring actions primarily included the following:

- the plan to close a U.S. manufacturing facility within the Industrial segment and relocate production to other U.S. and Non-U.S. facilities announced in 2019; and
- the plan to close two U.S. manufacturing facilities within the Climate segment and relocate production to another existing U.S. facility announced in 2018; and
- the plan to close a Non-U.S. manufacturing facility within the Industrial segment and relocate to other U.S. and Non-U.S. facilities announced in 2018.

Amounts recognized primarily relate to severance and exit costs. In addition, the Company also includes costs that are directly attributable to the restructuring activity but do not fall into the severance, exit or disposal categories. As of June 30, 2019 , the Company had $42.9 million accrued for costs associated with its ongoing restructuring actions, of which a majority is expected to be paid within one year. These actions primarily relate to workforce reduction benefits.

Note 16. Other Income/(Expense), Net

The components of *Other income/(expense), net* for the three and six months ended June 30 are as follows:

	Three months ended		Six months ended	
In millions	2019	2018	2019	2018
Interest income (loss)	$ 3.2	$ 2.6	$ 2.6	$ 6.2
Exchange gain (loss)	0.6	(1.8)	(3.7)	(9.1)
Other components of net periodic benefit cost	(9.3)	(5.8)	(20.4)	(9.7)
Other activity, net	8.9	1.5	6.1	5.1
Other income/(expense), net	$ 3.4	$ (3.5)	$ (15.4)	$ (7.5)

Other income /(expense), net includes the results from activities other than normal business operations such as interest income and foreign currency gains and losses on transactions that are denominated in a currency other than an entity's functional currency. In addition, the Company includes the components of net periodic benefit cost for pension and post retirement obligations other than the service cost component. Other activity, net includes items associated with Trane U.S. Inc. for the settlement and defense of asbestos-related claims, insurance settlements on asbestos-related matters and the revaluation of asbestos recoveries. Refer to Note 21, "Commitments and Contingencies," for more information regarding asbestos-related matters.

Note 17. Income Taxes

The Company accounts for its *Provision for income taxes* in accordance with ASC 740, which requires an estimate of the annual effective income tax rate for the full year to be applied to the respective interim period, taking into account year-to-date amounts and projected results for the full year. For the six months ended June 30, 2019 and June 30, 2018 , the Company's effective income tax rate was 19.8 % and 21.4 %, respectively. The effective income tax rate for the six months ended June 30, 2019 was lower than the U.S. statutory rate of 21% primarily due to excess tax benefits from employee share-based payments, a reduction in the Company's unrecognized tax benefits due to the settlement of an audit in a major tax jurisdiction and earnings in non-U.S. jurisdictions, which in aggregate have a lower effective tax rate. These amounts were partially offset by U.S. state and local taxes and certain non-deductible expenses. The effective tax rate for the six months ended June 30, 2018 was higher than the U.S. statutory rate of 21% primarily due to U.S. state and local income taxes and certain non-deductible employee expenses, partially offset by excess tax benefits from employee share-based payments, earnings in non-U.S. jurisdictions, which in aggregate have a lower effective tax rate and a reduction to the interest liability associated with the Company's unrecognized tax benefits.

Total unrecognized tax benefits as of June 30, 2019 and December 31, 2018 were $ 76.9 million and $ 83.0 million , respectively. Although management believes its tax positions and related provisions reflected in the Condensed Consolidated Financial Statements are fully supportable, it recognizes that these tax positions and related provisions may be challenged by various tax authorities. These tax positions and related provisions are reviewed on an ongoing basis and are adjusted as additional facts and information become available, including progress on tax audits, changes in interpretations of tax laws, developments in case law and closing of statute of limitations. To the extent that the ultimate results differ from the original or adjusted estimates of the Company, the effect will be recorded in *Provision for income taxes* .

The *Provision for income taxes* involves a significant amount of management judgment regarding interpretation of relevant facts and laws in the jurisdictions in which the Company operates. Future changes in applicable laws, projected levels of taxable income and tax planning could change the effective tax rate and tax balances recorded by the Company. In addition, tax authorities periodically review income tax returns filed by the Company and can raise issues regarding its filing positions, timing and amount of income or deductions, and the allocation of income among the jurisdictions in which the Company operates. A significant period of time may elapse between the filing of an income tax return and the ultimate resolution of an issue raised by a revenue authority with respect to that return. In the normal course of business, the Company is subject to examination by taxing authorities throughout the world, including such major jurisdictions as Brazil, Canada, China, France, Germany, Ireland, Italy, Mexico, Spain, the Netherlands, the United Kingdom and the United States. These examinations on their own, or any subsequent litigation related to the examinations, may result in additional taxes or penalties against the Company. If the ultimate result of these audits differ from original or adjusted estimates, they could have a material impact on the Company’s tax provision. In general, the examination of the Company’s material tax returns is complete or effectively settled for the years prior to 2011, with certain matters prior to 2011 being resolved through appeals and litigation and also unilateral procedures as provided for under double tax treaties.

Note 18. Acquisitions and Divestitures

Acquisitions

On May 15, 2019, the Company acquired all the outstanding capital stock of Precision Flow Systems (PFS), a manufacturer of precision flow control equipment including precision dosing pumps and controls that serve the global water, oil and gas, agriculture, industrial and specialty market segments. Total cash paid, net of cash acquired, was approximately $1.46 billion and was financed through the issuance of senior notes. The acquisition was recorded using the acquisition method of accounting in accordance with ASC 805, "Business Combinations" (ASC 805). As a result, the purchase price has been preliminarily allocated to assets acquired and liabilities assumed based on the estimate of fair market value of such assets and liabilities at the date of acquisition.

The preliminary allocation of the purchase price was as follows:

In millions		**May 15, 2019**
Current assets	$	124.8
Intangibles		662.2
Goodwill		888.0
Other noncurrent assets		48.4
Accounts payable, accrued expenses and other liabilities		(72.3)
Noncurrent deferred tax liabilities		(195.9)
Total purchase price, net of cash acquired	$	1,455.2

Accounts receivable and current liabilities were stated at their historical carrying values, which approximates fair value given the short nature of these assets and liabilities. The estimate of fair value for inventory and property, plant and equipment are based on an assessment of the acquired assets condition as well as an evaluation of current market value of such assets.

The Company recorded intangible assets based on their preliminary estimate of fair value, which consisted of the following:

In millions	Weighted-average useful life (*in years*)		May 15, 2019
Customer relationships	14	$	457.6
Trade names	Indefinite		168.2
Other	7		36.4
Total		$	662.2

The valuation of intangible assets was determined using an income approach methodology. Any excess of the purchase price over the estimated fair value of net assets was recognized as goodwill. The goodwill is attributed primarily to the fair value of the expected cost synergies and revenue growth from PFS businesses. The Company has not finalized the process of allocating the purchase price and valuing the acquired assets and liabilities assumed for the PFS acquisition.

During the six months ended June 30, 2019, the Company incurred $12.2 million of acquisition-related costs which are included in *Selling and administrative expenses* in the accompanying Condensed Consolidated Statements of Comprehensive Income. The results of PFS are reported within the Industrial segment from the date of acquisition. The Company has not included pro forma financial statements required under ASC 805 as the pro forma impact was deemed not material.

Divestitures

The Company has retained obligations from previously sold businesses, including amounts related to the 2013 spin-off of its commercial and residential security business, that primarily include ongoing expenses for postretirement benefits, product liability and legal costs. The components of *Discontinued operations, net of tax* for the three and six months ended June 30 were as follows:

	Three months ended				Six months ended			
In millions		2019		2018		2019		2018
Pre-tax earnings (loss) from discontinued operations	$	(7.9)	$	(8.6)	$	(9.8)	$	(20.7)
Tax benefit (expense)		2.3		2.7		2.1		5.4
Discontinued operations, net of tax	$	(5.6)	$	(5.9)	$	(7.7)	$	(15.3)

Pre-tax earnings (loss) from discontinued operations includes costs associated with Ingersoll-Rand Company for the settlement and defense of asbestos-related claims, insurance settlements on asbestos-related matters and the revaluation of its liability for potential future claims. Refer to Note 21, "Commitments and Contingencies," for more information related to asbestos.

Note 19. Earnings Per Share (EPS)

Basic EPS is calculated by dividing *Net earnings attributable to Ingersoll-Rand plc* by the weighted-average number of ordinary shares outstanding for the applicable period. Diluted EPS is calculated after adjusting the denominator of the basic EPS calculation for the effect of all potentially dilutive ordinary shares, which in the Company's case, includes shares issuable under share-based compensation plans. The following table summarizes the weighted-average number of ordinary shares outstanding for basic and diluted earnings per share calculations for the three and six months ended June 30 :

	Three months ended				Six months ended			
In millions, except per share amounts		2019		2018		2019		2018
Weighted-average number of basic shares		242.1		247.5		242.3		248.9
Shares issuable under incentive stock plans		2.8		2.6		2.7		2.7
Weighted-average number of diluted shares		244.9		250.1		245.0		251.6
Anti-dilutive shares		—		2.1		0.7		1.6
Dividends declared per ordinary share	$	1.06	$	0.98	$	1.59	$	1.43

Note 20. Business Segment Information

The accounting policies of the operating segments are the same as those described in the summary of significant accounting policies except that the operating segments' results are prepared on a management basis that is consistent with the manner in which the

Company prepares financial information for internal review and decision making. The Company largely evaluates performance based on Segment operating income and Segment operating margins. Intercompany sales between segments are considered immaterial.

The Company's Climate segment delivers energy-efficient products and innovative energy services. It includes Trane ® and American Standard ® Heating & Air Conditioning which provide heating, ventilation and air conditioning (HVAC) systems, and commercial and residential building services, parts, support and controls; energy services and building automation through Trane Building Advantage and Nexia; and Thermo King ® transport temperature control solutions.

The Company's Industrial segment delivers products and services that enhance energy efficiency, productivity and operations. It includes compressed air and gas systems and services, power tools, material handling systems, fluid management systems, as well as Club Car ® golf, utility and consumer low-speed vehicles.

Segment operating income is the measure of profit and loss that the Company's chief operating decision maker uses to evaluate the financial performance of the business and as the basis for performance reviews, compensation and resource allocation. For these reasons, the Company believes that Segment operating income represents the most relevant measure of segment profit and loss.

A summary of operations by reportable segment for the three and six months ended June 30 was as follows:

	Three months ended		Six months ended	
In millions	**2019**	**2018**	**2019**	**2018**
Net revenues				
Climate	$ 3,617.6	$ 3,493.8	$ 6,421.3	$ 6,103.6
Industrial	910.2	863.9	1,682.4	1,638.6
Total	$ 4,527.8	$ 4,357.7	$ 8,103.7	$ 7,742.2
Segment operating income				
Climate	$ 613.5	$ 582.7	$ 926.6	$ 843.1
Industrial	110.1	121.2	194.0	181.1
Unallocated corporate expense	(73.1)	(63.6)	(151.6)	(140.5)
Operating income	$ 650.5	$ 640.3	$ 969.0	$ 883.7

Note 21. Commitments and Contingencies

The Company is involved in various litigations, claims and administrative proceedings, including those related to environmental, asbestos, and product liability matters. In accordance with ASC 450, "Contingencies" (ASC 450), the Company records accruals for loss contingencies when it is both probable that a liability will be incurred and the amount of the loss can be reasonably estimated. Amounts recorded for identified contingent liabilities are estimates, which are reviewed periodically and adjusted to reflect additional information when it becomes available. Subject to the uncertainties inherent in estimating future costs for contingent liabilities, except as expressly set forth in this note, management believes that any liability which may result from these legal matters would not have a material adverse effect on the financial condition, results of operations, liquidity or cash flows of the Company.

Environmental Matters

The Company continues to be dedicated to environmental and sustainability programs to minimize the use of natural resources, and reduce the utilization and generation of hazardous materials from our manufacturing processes and to remediate identified environmental concerns. As to the latter, the Company is currently engaged in site investigations and remediation activities to address environmental cleanup from past operations at current and former manufacturing facilities.

The Company is sometimes a party to environmental lawsuits and claims and has received notices of potential violations of environmental laws and regulations from the Environmental Protection Agency and similar state authorities. It has also been identified as a potentially responsible party (PRP) for cleanup costs associated with off-site waste disposal at federal Superfund and state remediation sites. For all such sites, there are other PRPs and, in most instances, the Company’s involvement is minimal.

In estimating its liability, the Company has assumed it will not bear the entire cost of remediation of any site to the exclusion of other PRPs who may be jointly and severally liable. The ability of other PRPs to participate has been taken into account, based on the Company's understanding of the parties' financial condition and probable contributions on a per site basis. Additional lawsuits and claims involving environmental matters are likely to arise from time to time in the future.

Reserves for environmental matters are classified as *Accrued expenses and other current liabilities* or *Other noncurrent liabilities* based on their expected term. As of June 30, 2019 and December 31, 2018 , the Company has recorded reserves for environmental matters of $ 43.2 million and $ 41.2 million , respectively. Of these amounts, $ 36.8 million and $36.1 million , respectively, relate to remediation of sites previously disposed of by the Company.

Asbestos-Related Matters

Certain wholly-owned subsidiaries and former companies of ours are named as defendants in asbestos-related lawsuits in state and federal courts. In virtually all of the suits, a large number of other companies have also been named as defendants. The vast majority of those claims have been filed against either Ingersoll-Rand Company or Trane U.S. Inc. (Trane) and generally allege injury caused by exposure to asbestos contained in certain historical products sold by Ingersoll-Rand Company or Trane, primarily pumps, boilers and railroad brake shoes. None of our existing or previously-owned businesses were a producer or manufacturer of asbestos.

The Company engages an outside expert to perform a detailed analysis and project an estimated range of the Company's total liability for pending and unasserted future asbestos-related claims. In accordance with ASC 450, the Company records the liability at the low end of the range as it believes that no amount within the range is a better estimate than any other amount. Asbestos-related defense costs are excluded from the liability and are recorded separately as services are incurred. The methodology used to prepare estimates relies upon and includes the following factors, among others:

- the outside expert's interpretation of a widely accepted forecast of the population likely to have been occupationally exposed to asbestos;
- epidemiological studies estimating the number of people likely to develop asbestos-related diseases such as mesothelioma and lung cancer;
- the Company's historical experience with the filing of non-malignancy claims and claims alleging other types of malignant diseases filed against the Company relative to the number of lung cancer claims filed against the Company;
- the outside expert's analysis of the number of people likely to file an asbestos-related personal injury claim against the Company based on such epidemiological and historical data and the Company's claims history;
- an analysis of the Company's pending cases, by type of disease claimed and by year filed;
- an analysis of the Company's history to determine the average settlement and resolution value of claims, by type of disease claimed;
- an adjustment for inflation in the future average settlement value of claims, at a 2.5% annual inflation rate, adjusted downward to 1.0% to take account of the declining value of claims resulting from the aging of the claimant population; and
- an analysis of the period over which the Company has and is likely to resolve asbestos-related claims against it in the future (currently projected through 2053).

At June 30, 2019 and December 31, 2018 , over 75 percent of the open and active claims against the Company are non-malignant or unspecified disease claims. In addition, the Company has a number of claims which have been placed on inactive or deferred dockets and expected to have little or no settlement value against the Company.

The Company's liability for asbestos-related matters and the asset for probable asbestos-related insurance recoveries were included in the following balance sheet accounts:

In millions	**June 30, 2019**	**December 31, 2018**
Accrued expenses and other current liabilities	$ 66.2	$ 63.3
Other noncurrent liabilities	511.3	548.3
Total asbestos-related liabilities	$ 577.5	$ 611.6
Other current assets	$ 66.2	$ 69.2
Other noncurrent assets	190.8	199.0
Total asset for probable asbestos-related insurance recoveries	$ 257.0	$ 268.2

The Company's asbestos insurance receivables related to Ingersoll-Rand Company and Trane were $ 133.9 million and $ 123.1 million , respectively, at June 30, 2019 , and $ 141.7 million and $ 126.5 million , respectively, at December 31, 2018 . The receivable attributable to Trane for probable insurance recoveries as of June 30, 2019 is entirely supported by settlement agreements between Trane and the respective insurance carriers. Most of these settlement agreements constitute "coverage-in-place" arrangements, in which the insurer signatories agree to reimburse Trane for specified portions of its costs for asbestos bodily injury claims and Trane agrees to certain claims-handling protocols and grants to the insurer signatories certain releases and indemnifications.

The costs associated with the settlement and defense of asbestos-related claims, insurance settlements on asbestos-related matters and the revaluation of the Company's liability for potential future claims are included in the income statement within continuing operations or discontinued operations depending on the business to which they relate. Income and expenses associated with Ingersoll-Rand Company's asbestos-related matters are recorded within discontinued operations as they relate to previously divested businesses, primarily Ingersoll-Dresser Pump, which was sold by the Company in 2000. Income and expenses associated with Trane's asbestos-related matters are recorded within continuing operations.

The net income (expense) associated with these transactions, for the three and six months ended June 30 , were as follows:

	Three months ended		Six months ended	
In millions	2019	2018	2019	2018
Continuing operations	$ 5.9	$ (0.7)	$ 4.1	$ 0.8
Discontinued operations	(2.5)	(2.3)	(5.5)	(9.5)
Total	$ 3.4	$ (3.0)	$ (1.4)	$ (8.7)

In 2012 and 2013, Ingersoll-Rand Company filed actions in the Superior Court of New Jersey, Middlesex County, seeking a declaratory judgment and other relief regarding the Company's rights to defense and indemnity for asbestos claims. The defendants were several dozen solvent insurance companies, including companies that had been paying a portion of Ingersoll-Rand Company's asbestos claim defense and indemnity costs. The responding defendants generally challenged the Company's right to recovery, and raised various coverage defenses. Since filing the actions, Ingersoll Rand Company has settled with approximately two-thirds of the insurer defendants, and has dismissed one of the actions in its entirety.

The Company continually monitors the status of pending litigation that could impact the allocation of asbestos claims against the Company's various insurance policies. The Company has concluded that its Ingersoll-Rand Company insurance receivable is probable of recovery because of the following factors:

- Ingersoll-Rand Company has reached favorable settlements regarding asbestos coverage claims for the majority of its recorded asbestos-related insurance receivable;
- a review of other companies in circumstances comparable to Ingersoll-Rand Company, including Trane, and the success of other companies in recovering under their insurance policies, including Trane's favorable settlement discussed above;
- the Company's confidence in its right to recovery under the terms of its policies and pursuant to applicable law; and
- the Company's history of receiving payments under the Ingersoll-Rand Company insurance program, including under policies that had been the subject of prior litigation.

The amounts recorded by the Company for asbestos-related liabilities and insurance-related assets are based on currently available information. The Company's actual liabilities or insurance recoveries could be significantly higher or lower than those recorded if assumptions used in the calculations vary significantly from actual results. Key variables in these assumptions include the number and type of new claims to be filed each year, the average cost of resolution of each such new claim, the resolution of coverage issues with insurance carriers, and the solvency risk with respect to the Company's insurance carriers. Furthermore, predictions with respect to these variables are subject to greater uncertainty as the projection period lengthens. Other factors that may affect the Company's liability include uncertainties surrounding the litigation process from jurisdiction to jurisdiction and from case to case, reforms that may be made by state and federal courts, and the passage of state or federal tort reform legislation.

The aggregate amount of the stated limits in insurance policies available to the Company for asbestos-related claims acquired, over many years and from many different carriers, is substantial. However, limitations in that coverage, primarily due to the considerations described above, are expected to result in the projected total liability to claimants substantially exceeding the probable insurance recovery.

Warranty Liability

Standard product warranty accruals are recorded at the time of sale and are estimated based upon product warranty terms and historical experience. The Company assesses the adequacy of its liabilities and will make adjustments as necessary based on known or anticipated warranty claims, or as new information becomes available.

The changes in the standard product warranty liability for the six months ended June 30 were as follows:

In millions	**2019**	**2018**
Balance at beginning of period	$ 278.9	$ 270.5
Reductions for payments	(71.8)	(74.0)
Accruals for warranties issued during the current period	77.3	75.1
Changes to accruals related to preexisting warranties	1.1	4.5
Translation	(0.2)	(1.5)
Balance at end of period	$ 285.3	$ 274.6

Standard product warranty liabilities are classified as *Accrued expenses and other current liabilities* or *Other noncurrent liabilities* based on their expected term. The Company's total current standard product warranty reserve at June 30, 2019 and December 31, 2018 was $ 155.2 million and $ 149.5 million , respectively.

The Company's extended warranty liability represents the deferred revenue associated with its extended warranty contracts and is amortized into *Net revenues* on a straight-line basis over the life of the contract, unless another method is more representative of the costs incurred. The Company assesses the adequacy of its liability by evaluating the expected costs under its existing contracts to ensure these expected costs do not exceed the extended warranty liability.

The changes in the extended warranty liability for the six months ended June 30 were as follows:

In millions	**2019**	**2018**
Balance at beginning of period	$ 292.2	$ 293.0
Amortization of deferred revenue for the period	(56.0)	(54.6)
Additions for extended warranties issued during the period	63.0	57.0
Changes to accruals related to preexisting warranties	(0.3)	(0.1)
Translation	0.2	(0.9)
Balance at end of period	$ 299.1	$ 294.4

The extended warranty liability is classified as *Accrued expenses and other current liabilities* or *Other noncurrent liabilities* based on the timing of when the deferred revenue is expected to be amortized into revenue. The Company's total current extended warranty liability at June 30, 2019 and December 31, 2018 was $ 105.8 million and $ 103.1 million , respectively.

Note 22. Guarantor Financial Information

Ingersoll-Rand plc (Plc or Parent Company) and certain of its 100% directly or indirectly owned subsidiaries provide guarantees of public debt issued by other 100% directly or indirectly owned subsidiaries. The following condensed consolidating financial information is provided so that separate financial statements of these subsidiary issuer and guarantors are not required to be filed with the U.S. Securities and Exchange Commission.

The following table shows the Company's guarantor relationships as of June 30, 2019 :

Parent, issuer or guarantors	Notes issued	Notes guaranteed [1]
Ingersoll-Rand plc (Plc)	None	All registered notes and debentures
Ingersoll-Rand Irish Holdings Unlimited Company (Irish Holdings)	None	All notes issued by Global Holding and Lux Finance
Ingersoll-Rand Lux International Holding Company S.à.r.l. (Lux International)	None	All notes issued by Global Holding and Lux Finance
Ingersoll-Rand Global Holding Company Limited (Global Holding)	2.900% Senior notes due 2021 4.250% Senior notes due 2023 3.750% Senior notes due 2028 5.750% Senior notes due 2043 4.300% Senior notes due 2048	All notes issued by Lux Finance
Ingersoll-Rand Company (New Jersey)	9.000% Debentures due 2021 7.200% Debentures due 2020-2025 6.480% Debentures due 2025 Puttable debentures due 2027-2028	All notes issued by Global Holding and Lux Finance
Ingersoll-Rand Luxembourg Finance S.A. (Lux Finance)	2.625% Notes due 2020 3.550% Notes due 2024 3.500% Notes due 2026 3.800% Notes due 2029 4.650% Notes due 2044 4.500% Notes due 2049	All notes and debentures issued by Global Holding and New Jersey

(1) All subsidiary issuers and all guarantors provide irrevocable guarantees of borrowings, if any, made under revolving credit facilities.

Each subsidiary debt issuer and guarantor is owned 100% directly or indirectly by the Parent Company. Each guarantee is full and unconditional, and provided on a joint and several basis. There are no significant restrictions of the Parent Company, or any guarantor, to obtain funds from its subsidiaries, such as provisions in debt agreements that prohibit dividend payments, loans or advances to the parent by a subsidiary.

Basis of presentation

The following Condensed Consolidating Financial Statements present the financial position, results of operations and cash flows of each issuer or guarantor on a legal entity basis. The financial information for all periods has been presented based on the Company's legal entity ownerships and guarantees outstanding at June 30, 2019 . Assets and liabilities are attributed to each issuer and guarantor generally based on legal entity ownership. Investments in subsidiaries of the Parent Company, subsidiary guarantors and issuers represent the proportionate share of their subsidiaries' net assets. Certain adjustments are needed to consolidate the Parent Company and its subsidiaries, including the elimination of investments in subsidiaries and related activity that occurs between entities in different columns. These adjustments are presented in the Consolidating Adjustments column. This basis of presentation is intended to comply with the specific reporting requirements for subsidiary issuers and guarantors, and is not intended to present the Company's financial position or results of operations or cash flows for any other purpose.

Condensed Consolidating Statement of Comprehensive Income
For the three months ended June 30, 2019

In millions	Plc	Irish Holdings	Lux International	Global Holding	New Jersey	Lux Finance	Other Subsidiaries	Consolidating Adjustments	Consolidated
Net revenues	$ —	$ —	$ —	$ —	$ 327.9	$ —	$ 4,285.5	$ (85.6)	$ 4,527.8
Cost of goods sold	—	—	—	—	(246.2)	—	(2,933.5)	85.6	(3,094.1)
Selling and administrative expenses	(17.0)	—	(0.2)	—	(127.2)	—	(638.8)	—	(783.2)
Operating income (loss)	(17.0)	—	(0.2)	—	(45.5)	—	713.2	—	650.5
Equity earnings (loss) in subsidiaries, net of tax	500.1	499.7	416.1	408.1	430.4	75.7	—	(2,330.1)	—
Interest expense	—	—	—	(26.7)	(11.6)	(26.2)	(0.2)	—	(64.7)
Intercompany interest and fees	(31.6)	—	16.1	(71.8)	23.4	7.5	56.4	—	—
Other income/(expense), net	—	—	0.1	—	(3.9)	4.1	3.1	—	3.4
Earnings (loss) before income taxes	451.5	499.7	432.1	309.6	392.8	61.1	772.5	(2,330.1)	589.2
Benefit (provision) for income taxes	4.6	—	—	21.3	18.5	—	(167.7)	—	(123.3)
Earnings (loss) from continuing operations	456.1	499.7	432.1	330.9	411.3	61.1	604.8	(2,330.1)	465.9
Discontinued operations, net of tax	—	—	—	—	(5.7)	—	0.1	—	(5.6)
Net earnings (loss)	456.1	499.7	432.1	330.9	405.6	61.1	604.9	(2,330.1)	460.3
Less: Net earnings attributable to noncontrolling interests	—	—	—	—	—	—	(4.2)	—	(4.2)
Net earnings (loss) attributable to Ingersoll-Rand plc	$ 456.1	$ 499.7	$ 432.1	$ 330.9	$ 405.6	$ 61.1	$ 600.7	$ (2,330.1)	$ 456.1
Other comprehensive income (loss), net of tax	19.4	19.3	19.3	17.1	17.2	2.5	13.3	(88.7)	19.4
Comprehensive income (loss) attributable to Ingersoll-Rand plc	$ 475.5	$ 519.0	$ 451.4	$ 348.0	$ 422.8	$ 63.6	$ 614.0	$ (2,418.8)	$ 475.5

Condensed Consolidating Statement of Comprehensive Income
For the six months ended June 30, 2019

In millions	Plc	Irish Holdings	Lux International	Global Holding	New Jersey	Lux Finance	Other Subsidiaries	Consolidating Adjustments	Consolidated
Net revenues	$ —	$ —	$ —	$ —	$ 653.3	$ —	$ 7,625.9	$ (175.5)	$ 8,103.7
Cost of goods sold	—	—	—	—	(498.0)	—	(5,288.9)	175.5	(5,611.4)
Selling and administrative expenses	(18.7)	—	(0.4)	(0.1)	(235.9)	(0.1)	(1,268.1)	—	(1,523.3)
Operating income (loss)	(18.7)	—	(0.4)	(0.1)	(80.6)	(0.1)	1,068.9	—	969.0
Equity earnings (loss) in subsidiaries, net of tax	729.1	728.8	558.6	569.3	592.7	118.8	—	(3,297.3)	—
Interest expense	—	—	—	(53.3)	(23.2)	(38.9)	(0.2)	—	(115.6)
Intercompany interest and fees	(60.6)	—	25.1	(133.1)	72.9	8.9	86.8	—	—
Other income/(expense), net	—	—	59.2	—	(11.2)	4.1	(67.5)	—	(15.4)
Earnings (loss) before income taxes	649.8	728.8	642.5	382.8	550.6	92.8	1,088.0	(3,297.3)	838.0
Benefit (provision) for income taxes	6.2	—	—	41.8	28.4	—	(242.7)	—	(166.3)
Earnings (loss) from continuing operations	656.0	728.8	642.5	424.6	579.0	92.8	845.3	(3,297.3)	671.7
Discontinued operations, net of tax	—	—	—	—	(12.0)	—	4.3	—	(7.7)
Net earnings (loss)	656.0	728.8	642.5	424.6	567.0	92.8	849.6	(3,297.3)	664.0
Less: Net earnings attributable to noncontrolling interests	—	—	—	—	—	—	(8.0)	—	(8.0)
Net earnings (loss) attributable to Ingersoll-Rand plc	$ 656.0	$ 728.8	$ 642.5	$ 424.6	$ 567.0	$ 92.8	$ 841.6	$ (3,297.3)	$ 656.0
Other comprehensive income (loss), net of tax	24.9	24.9	23.1	17.7	18.0	5.3	14.1	(103.1)	24.9
Comprehensive income (loss) attributable to Ingersoll-Rand plc	$ 680.9	$ 753.7	$ 665.6	$ 442.3	$ 585.0	$ 98.1	$ 855.7	$ (3,400.4)	$ 680.9

Condensed Consolidating Statement of Comprehensive Income
For the three months ended June 30, 2018

In millions	Plc	Irish Holdings	Lux International	Global Holding	New Jersey	Lux Finance	Other Subsidiaries	Consolidating Adjustments	Consolidated
Net revenues	$ —	$ —	$ —	$ —	$ 345.1	$ —	$ 4,111.4	$ (98.8)	$ 4,357.7
Cost of goods sold	—	—	—	—	(252.2)	—	(2,810.7)	98.8	(2,964.1)
Selling and administrative expenses	(4.5)	—	(0.1)	—	(126.3)	0.1	(622.5)	—	(753.3)
Operating income (loss)	(4.5)	—	(0.1)	—	(33.4)	0.1	678.2	—	640.3
Equity earnings (loss) in subsidiaries, net of tax	460.8	461.0	368.1	372.7	402.0	49.4	—	(2,114.0)	—
Interest expense	—	—	—	(26.7)	(11.8)	(11.8)	—	—	(50.3)
Intercompany interest and fees	(8.5)	—	14.4	(50.5)	9.0	(1.2)	36.8	—	—
Other income/(expense), net	—	—	(0.2)	—	(4.5)	—	1.2	—	(3.5)
Earnings (loss) before income taxes	447.8	461.0	382.2	295.5	361.3	36.5	716.2	(2,114.0)	586.5
Benefit (provision) for income taxes	0.3	—	(0.3)	17.8	18.8	—	(164.6)	—	(128.0)
Earnings (loss) from continuing operations	448.1	461.0	381.9	313.3	380.1	36.5	551.6	(2,114.0)	458.5
Discontinued operations, net of tax	—	—	—	—	(7.5)	—	1.6	—	(5.9)
Net earnings (loss)	448.1	461.0	381.9	313.3	372.6	36.5	553.2	(2,114.0)	452.6
Less: Net earnings attributable to noncontrolling interests	—	—	—	—	—	—	(4.5)	—	(4.5)
Net earnings (loss) attributable to Ingersoll-Rand plc	$ 448.1	$ 461.0	$ 381.9	$ 313.3	$ 372.6	$ 36.5	$ 548.7	$ (2,114.0)	$ 448.1
Other comprehensive income (loss), net of tax	(277.9)	(277.3)	(266.3)	(171.8)	(171.6)	(90.6)	(283.4)	1,261.0	(277.9)
Comprehensive income (loss) attributable to Ingersoll-Rand plc	$ 170.2	$ 183.7	$ 115.6	$ 141.5	$ 201.0	$ (54.1)	$ 265.3	$ (853.0)	$ 170.2

Condensed Consolidating Statement of Comprehensive Income
For the six months ended June 30, 2018

in millions	Plc	Irish Holdings	Lux International	Global Holding	New Jersey	Lux Finance	Other Subsidiaries	Consolidating Adjustments	Consolidated
Net revenues	$ —	$ —	$ —	$ —	$ 692.7	$ —	$ 7,252.1	$ (202.6)	$ 7,742.2
Cost of goods sold	—	—	—	—	(506.0)	—	(5,080.9)	202.6	(5,384.3)
Selling and administrative expenses	(6.2)	—	(0.1)	(0.1)	(262.6)	0.1	(1,205.3)	—	(1,474.2)
Operating income (loss)	(6.2)	—	(0.1)	(0.1)	(75.9)	0.1	965.9	—	883.7
Equity earnings (loss) in subsidiaries, net of tax	585.0	584.5	479.0	491.0	564.7	88.6	—	(2,792.8)	—
Interest expense	—	—	—	(77.0)	(23.6)	(22.4)	(0.2)	—	(123.2)
Intercompany interest and fees	(9.5)	—	18.4	(78.3)	15.3	(3.6)	57.7	—	—
Other income/(expense), net	—	—	(0.2)	0.7	(8.1)	0.1	—	—	(7.5)
Earnings (loss) before income taxes	569.3	584.5	497.1	336.3	472.4	62.8	1,023.4	(2,792.8)	753.0
Benefit (provision) for income taxes	(0.8)	—	—	35.5	35.2	—	(230.9)	—	(161.0)
Earnings (loss) from continuing operations	568.5	584.5	497.1	371.8	507.6	62.8	792.5	(2,792.8)	592.0
Discontinued operations, net of tax	—	—	—	—	(16.8)	—	1.5	—	(15.3)
Net earnings (loss)	568.5	584.5	497.1	371.8	490.8	62.8	794.0	(2,792.8)	576.7
Less: Net earnings attributable to noncontrolling interests	—	—	—	—	—	—	(8.2)	—	(8.2)
Net earnings (loss) attributable to Ingersoll-Rand plc	$ 568.5	$ 584.5	$ 497.1	$ 371.8	$ 490.8	$ 62.8	$ 785.8	$ (2,792.8)	$ 568.5
Other comprehensive income (loss), net of tax	(125.8)	(125.4)	(122.1)	(66.0)	(66.4)	(53.3)	(137.6)	570.8	(125.8)
Comprehensive income (loss) attributable to Ingersoll-Rand plc	$ 442.7	$ 459.1	$ 375.0	$ 305.8	$ 424.4	$ 9.5	$ 648.2	$ (2,222.0)	$ 442.7

Condensed Consolidating Balance Sheet
June 30, 2019

In millions	Plc	Irish Holdings	Lux International	Global Holding	New Jersey	Lux Finance	Other Subsidiaries	Consolidating Adjustments	Consolidated
ASSETS									
Current assets:									
Cash and cash equivalents	$ —	$ 0.1	$ 0.1	$ —	$ —	$ 0.4	$ 875.0	$ —	$ 875.6
Accounts and notes receivable, net	—	—	0.2	—	165.5	—	2,942.6	—	3,108.3
Inventories, net	—	—	—	—	162.1	—	1,788.4	—	1,950.5
Other current assets	6.4	—	2.4	7.6	108.6	—	292.1	—	417.1
Intercompany receivables	44.3	—	11.3	—	4,310.4	1,656.2	5,609.4	(11,631.6)	—
Total current assets	50.7	0.1	14.0	7.6	4,746.6	1,656.6	11,507.5	(11,631.6)	6,351.5
Property, plant and equipment, net	—	—	0.1	—	290.4	—	1,503.6	—	1,794.1
Goodwill and other intangible assets, net	—	—	—	—	428.2	—	10,661.7	—	11,089.9
Other noncurrent assets	—	—	8.0	181.6	780.8	—	868.1	(406.4)	1,432.1
Investments in consolidated subsidiaries	9,961.8	9,920.7	4,416.5	13,769.4	10,702.3	1,385.3	—	(50,156.0)	—
Intercompany notes receivable	—	—	2,781.9	—	—	—	2,249.7	(5,031.6)	—
Total assets	$ 10,012.5	$ 9,920.8	$ 7,220.5	$ 13,958.6	$ 16,948.3	$ 3,041.9	$ 26,790.6	$ (67,225.6)	$ 20,667.6
LIABILITIES AND EQUITY									
Current liabilities:									
Accounts payable and accrued expenses	$ 143.5	$ —	$ —	$ 70.1	$ 658.8	$ 24.3	$ 3,454.3	$ —	$ 4,351.0
Short-term borrowings and current maturities of long-term debt	—	—	—	—	350.4	478.6	0.2	—	829.2
Intercompany payables	2,738.5	—	2,833.0	3,735.9	2,061.5	0.5	262.2	(11,631.6)	—
Total current liabilities	2,882.0	—	2,833.0	3,806.0	3,070.7	503.4	3,716.7	(11,631.6)	5,180.2
Long-term debt	—	—	—	2,331.2	312.0	2,277.3	0.1	—	4,920.6
Other noncurrent liabilities	—	—	—	—	1,280.8	—	2,519.5	(406.4)	3,393.9
Intercompany notes payable	—	—	—	3,699.7	—	—	1,331.9	(5,031.6)	—
Total liabilities	2,882.0	—	2,833.0	9,836.9	4,663.5	2,780.7	7,568.2	(17,069.6)	13,494.7
Equity:									
Total equity	7,130.5	9,920.8	4,387.5	4,121.7	12,284.8	261.2	19,222.4	(50,156.0)	7,172.9
Total liabilities and equity	$ 10,012.5	$ 9,920.8	$ 7,220.5	$ 13,958.6	$ 16,948.3	$ 3,041.9	$ 26,790.6	$ (67,225.6)	$ 20,667.6

Condensed Consolidating Balance Sheet
December 31, 2018

In millions	Plc	Irish Holdings	Lux International	Global Holding	New Jersey	Lux Finance	Other Subsidiaries	Consolidating Adjustments	Consolidated
ASSETS									
Current assets:									
Cash and cash equivalents	$ —	$ 0.1	$ 0.2	$ —	$ 363.5	$ —	$ 539.6	$ —	$ 903.4
Accounts and notes receivable, net	—	—	0.1	—	183.4	—	2,495.7	—	2,679.2
Inventories, net	—	—	—	—	146.6	—	1,531.2	—	1,677.8
Other current assets	0.2	—	7.8	—	101.0	—	363.4	(0.8)	471.6
Intercompany receivables	59.5	—	3.9	—	3,851.0	0.1	3,838.0	(7,752.5)	—
Total current assets	59.7	0.1	12.0	—	4,645.5	0.1	8,767.9	(7,753.3)	5,732.0
Property, plant and equipment, net	—	—	0.1	—	314.6	—	1,416.1	—	1,730.8
Goodwill and other intangible assets, net	—	—	—	—	432.1	—	9,162.1	—	9,594.2
Other noncurrent assets	—	—	8.0	180.0	498.1	—	610.6	(438.8)	857.9
Investments in consolidated subsidiaries	9,308.9	9,267.8	3,935.4	11,743.2	9,923.2	1,264.2	—	(45,442.7)	—
Intercompany notes receivable	—	—	—	—	—	—	2,249.7	(2,249.7)	—
Total assets	$ 9,368.6	$ 9,267.9	$ 3,955.5	$ 11,923.2	$ 15,813.5	$ 1,264.3	$ 22,206.4	$ (55,884.5)	$ 17,914.9
LIABILITIES AND EQUITY									
Current liabilities:									
Accounts payable and accrued expenses	$ 11.3	$ —	$ 0.1	$ 41.7	$ 599.6	$ 6.9	$ 3,306.3	$ (0.8)	$ 3,965.1
Short-term borrowings and current maturities of long-term debt	—	—	—	—	350.4	—	0.2	—	350.6
Intercompany payables	2,334.6	—	132.9	3,518.7	1,700.9	0.2	65.2	(7,752.5)	—
Total current liabilities	2,345.9	—	133.0	3,560.4	2,650.9	7.1	3,371.7	(7,753.3)	4,315.7
Long-term debt	—	—	—	2,330.0	319.5	1,091.0	0.2	—	3,740.7
Other noncurrent liabilities	—	—	—	5.5	1,100.5	—	2,126.5	(438.8)	2,793.7
Intercompany notes payable	—	—	—	2,249.7	—	—	—	(2,249.7)	—
Total liabilities	2,345.9	—	133.0	8,145.6	4,070.9	1,098.1	5,498.4	(10,441.8)	10,850.1
Equity:									
Total equity	7,022.7	9,267.9	3,822.5	3,777.6	11,742.6	166.2	16,708.0	(45,442.7)	7,064.8
Total liabilities and equity	$ 9,368.6	$ 9,267.9	$ 3,955.5	$ 11,923.2	$ 15,813.5	$ 1,264.3	$ 22,206.4	$ (55,884.5)	$ 17,914.9

Condensed Consolidating Statement of Cash Flows
For the six months ended June 30, 2019

in millions	Plc	Irish Holdings	Lux International	Global Holding	New Jersey	Lux Finance	Other Subsidiaries	Consolidating Adjustments	Consolidated
CASH FLOWS FROM OPERATING ACTIVITIES:									
Net cash provided by (used in) continuing operating activities	$ 63.5	$ —	$ 51.0	$ (166.2)	$ 222.7	$ (17.6)	$ 268.2	$ —	$ 421.6
Net cash provided by (used in) discontinued operating activities	—	—	—	—	(32.2)	—	4.3	—	(27.9)
Net cash provided by (used in) operating activities	63.5	—	51.0	(166.2)	190.5	(17.6)	272.5	—	393.7
CASH FLOWS FROM INVESTING ACTIVITIES:									
Capital expenditures	—	—	—	—	(13.5)	—	(103.2)	—	(116.7)
Acquisitions and equity method investments, net of cash acquired	—	—	—	(1,445.2)	—	—	(32.4)	—	(1,477.6)
Other investing activities, net	—	—	—	—	1.0	—	6.0	—	7.0
Intercompany investing activities, net	—	—	(1,449.5)	—	(281.2)	(1,647.2)	376.1	3,001.8	—
Net cash provided by (used in) continuing investing activities	—	—	(1,449.5)	(1,445.2)	(293.7)	(1,647.2)	246.5	3,001.8	(1,587.3)
CASH FLOWS FROM FINANCING ACTIVITIES:									
Net proceeds from (payments of) debt	—	—	—	—	(7.5)	1,676.9	—	—	1,669.4
Debt issuance costs	—	—	—	—	(0.2)	(11.7)	—	—	(11.9)
Dividends paid to ordinary shareholders	(259.4)	—	—	—	—	—	—	—	(259.4)
Dividends paid to noncontrolling interests	—	—	—	—	—	—	(9.3)	—	(9.3)
Repurchase of ordinary shares	(250.0)	—	—	—	—	—	—	—	(250.0)
Other financing activities, net	21.2	—	—	—	(0.7)	—	—	—	20.5
Intercompany financing activities, net	424.7	—	1,398.4	1,611.4	(251.9)	—	(180.8)	(3,001.8)	—
Net cash provided by (used in) continuing financing activities	(63.5)	—	1,398.4	1,611.4	(260.3)	1,665.2	(190.1)	(3,001.8)	1,159.3
Effect of exchange rate changes on cash and cash equivalents	—	—	—	—	—	—	6.5	—	6.5
Net increase (decrease) in cash and cash equivalents	—	—	(0.1)	—	(363.5)	0.4	335.4	—	(27.8)
Cash and cash equivalents - beginning of period	—	0.1	0.2	—	363.5	—	539.6	—	903.4
Cash and cash equivalents - end of period	$ —	$ 0.1	$ 0.1	$ —	$ —	$ 0.4	$ 875.0	$ —	$ 875.6

Condensed Consolidating Statement of Cash Flows
For the six months ended June 30, 2018

in millions	Plc	Irish Holdings	Lux International	Global Holding	New Jersey	Lux Finance	Other Subsidiaries	Consolidating Adjustments	Consolidated
CASH FLOWS FROM OPERATING ACTIVITIES:									
Net cash provided by (used in) continuing operating activities	$ 80.0	$ (2.7)	$ 17.6	$ (94.4)	$ 439.1	$ (24.6)	$ (0.5)	$ —	$ 414.5
Net cash provided by (used in) discontinued operating activities	—	—	—	—	(38.3)	—	1.5	—	(36.8)
Net cash provided by (used in) operating activities	80.0	(2.7)	17.6	(94.4)	400.8	(24.6)	1.0	—	377.7
CASH FLOWS FROM INVESTING ACTIVITIES:									
Capital expenditures	—	—	—	—	(55.4)	—	(108.0)	—	(163.4)
Acquisitions and equity method investments, net of cash acquired	—	—	—	—	—	—	(281.5)	—	(281.5)
Other investing activities, net	—	—	(4.0)	—	3.0	—	1.0	—	—
Intercompany investing activities, net	872.3	(668.1)	741.2	—	(800.5)	—	468.2	(613.1)	—
Net cash provided by (used in) continuing investing activities	872.3	(668.1)	737.2	—	(852.9)	—	79.7	(613.1)	(444.9)
CASH FLOWS FROM FINANCING ACTIVITIES:									
Net proceeds from (payments of) debt	—	—	—	31.6	(7.5)	249.0	(6.4)	—	266.7
Debt issuance costs	—	—	—	(11.6)	—	—	—	—	(11.6)
Dividends paid to ordinary shareholders	(221.8)	—	—	—	—	—	—	—	(221.8)
Dividends paid to noncontrolling interests	—	—	—	—	—	—	(35.5)	—	(35.5)
Repurchase of ordinary shares	(500.1)	—	—	—	—	—	—	—	(500.1)
Other financing activities, net	13.8	—	—	—	(0.4)	—	(2.5)	—	10.9
Intercompany financing activities, net	(244.2)	670.8	(754.7)	74.4	100.7	(224.3)	(235.8)	613.1	—
Net cash provided by (used in) continuing financing activities	(952.3)	670.8	(754.7)	94.4	92.8	24.7	(280.2)	613.1	(491.4)
Effect of exchange rate changes on cash and cash equivalents	—	—	—	—	—	—	(21.3)	—	(21.3)
Net increase (decrease) in cash and cash equivalents	—	—	0.1	—	(359.3)	0.1	(220.8)	—	(579.9)
Cash and cash equivalents - beginning of period	—	—	0.6	—	359.3	—	1,189.5	—	1,549.4
Cash and cash equivalents - end of period	$ —	$ —	$ 0.7	$ —	$ —	$ 0.1	$ 968.7	$ —	$ 969.5

Item 2 – Management's Discussion and Analysis of Financial Condition and Results of Operations

The following Management's Discussion and Analysis of Financial Condition and Results of Operations contains forward-looking statements that involve risks and uncertainties. Our actual results may differ materially from the results discussed in the forward-looking statements. Factors that might cause a difference include, but are not limited to, those discussed under Part I, Item 1A – Risk Factors in the Annual Report on Form 10-K for the fiscal year ended December 31, 2018 , as updated by any disclosures under Part II, Item 1A – Risk Factors in our Quarterly Reports on Form 10-Q. The following section is qualified in its entirety by the more detailed information, including our financial statements and the notes thereto, which appears elsewhere in this Quarterly Report.

Overview

Organizational

We are a diversified, global company that provides products, services and solutions to enhance the quality, energy efficiency and comfort of air in homes and buildings, transport and protect food and perishables and increase industrial productivity and efficiency. Our business segments consist of Climate and Industrial, both with strong brands and highly differentiated products within their respective markets. We generate revenue and cash primarily through the design, manufacture, sale and service of a diverse portfolio of industrial and commercial products that include well-recognized, premium brand names such as Ingersoll-Rand ® , Trane ® , Thermo King ® , American Standard ® , ARO ® and Club Car ® .

To achieve our mission of being a world leader in creating comfortable, sustainable and efficient environments, we continue to focus on growth by increasing our recurring revenue stream from parts, service, controls, used equipment and rentals; and to continuously improve the efficiencies and capabilities of the products and services of our businesses. We also continue to focus on operational excellence strategies as a central theme to improving our earnings and cash flows.

Trends and Economic Events

We are a global corporation with worldwide operations. As a global business, our operations are affected by worldwide, regional and industry-specific economic factors, as well as political factors, wherever we operate or do business. Our geographic and industry diversity, and the breadth of our product and services portfolios, have helped mitigate the impact of any one industry or the economy of any single country on our consolidated operating results.

Given the broad range of products manufactured and geographic markets served, management uses a variety of factors to predict the outlook for the Company. We monitor key competitors and customers in order to gauge relative performance and the outlook for the future. We regularly perform detailed evaluations of the different market segments we are serving to proactively detect trends and to adapt our strategies accordingly. In addition, we believe our order rates are indicative of future revenue and thus are a key measure of anticipated performance. In those industry segments where we are a capital equipment provider, revenues depend on the capital expenditure budgets and spending patterns of our customers, who may delay or accelerate purchases in reaction to changes in their businesses and in the economy.

Current economic conditions are showing largely positive trends in each of the segments in which we participate. Heating, Ventilation, and Air Conditioning (HVAC) equipment replacement, services, controls and aftermarket continue to experience healthy demand. In addition, Residential and Commercial markets have seen continued momentum in the United States, positively impacting the results of our HVAC businesses. Global Industrial markets remain largely supportive of continued growth in both equipment and services. While geopolitical uncertainty exists in markets such as Europe, Asia and Latin America, we expect positive growth in both our Climate and Industrial segments in 2019, each benefiting from operational excellence initiatives, new product launches and continued productivity programs.

We believe we have a solid foundation of global brands that are highly differentiated in all of our major product lines. Our growing geographic and industry diversity coupled with our large installed product base provides growth opportunities within our service, parts and replacement revenue streams. In addition, we are investing substantial resources to innovate and develop new products and services which we expect will drive our future growth.

Significant Events

Separation of Industrial Segment Businesses

In April 2019, Ingersoll-Rand plc and Gardner Denver Holdings, Inc. (GDI) announced that they entered into definitive agreements pursuant to which we will separate our Industrial segment businesses (IR Industrial) by way of spin-off to our shareholders and then combine with GDI to create a new company focused on flow creation and industrial technologies (IndustrialCo). Our remaining HVAC and transport refrigeration businesses, reported under the Climate segment, will focus on climate control solutions for buildings, homes and transportation (ClimateCo). The transaction is expected to close by early 2020, subject to approval by GDI's shareholders, regulatory approvals and customary closing conditions. We expect to incur costs ranging from $150 million to $200 million related to the separation activities.

Acquisition of Precision Flow Systems

On May 15, 2019, we acquired all the outstanding capital stock of Precision Flow Systems (PFS), a manufacturer of precision flow control equipment including precision dosing pumps and controls that serve the global water, oil and gas, agriculture, industrial and specialty market segments. Total cash paid, net of cash acquired, was approximately $1.46 billion and was financed through the issuance of senior notes. The results of PFS have been included in our Condensed Consolidated Financial Statements from the date of acquisition and reported within the Industrial segment.

Issuance of Senior Notes

In March 2019, we issued $1.5 billion principal amount of senior notes in three tranches through Ingersoll-Rand Luxembourg Finance S.A., an indirect, wholly-owned subsidiary. The tranches consist of $400 million aggregate principal amount of 3.500% senior notes due 2026, $750 million aggregate principal amount of 3.800% senior notes due 2029 and $350 million aggregate principal amount of 4.500% senior notes due 2049. The net proceeds were used to finance the acquisition of PFS and for general corporate purposes.

Share Repurchase Program

Share repurchases are made from time to time in accordance with management's capital allocation strategy, subject to market conditions and regulatory requirements. In October 2018, our Board of Directors authorized the repurchase of up to $1.5 billion of our ordinary shares under a share repurchase program (2018 Authorization) upon completion of the prior authorized share repurchase program. During the six months ended June 30, 2019, the Company repurchased and canceled approximately $250 million of its ordinary shares leaving approximately $1.25 billion remaining under the 2018 Authorization.

Results of Operations

Our Climate segment delivers energy-efficient products and innovative energy services. It includes Trane ® and American Standard ® Heating & Air Conditioning which provide heating, ventilation and air conditioning (HVAC) systems, and commercial and residential building services, parts, support and controls; energy services and building automation through Trane Building Advantage and Nexia; and Thermo King ® transport temperature control solutions.

Our Industrial segment delivers products and services that enhance energy efficiency, productivity and operations. It includes compressed air and gas systems and services, power tools, material handling systems, fluid management systems, as well as Club Car ® golf, utility and consumer low-speed vehicles.

Segment operating income is the measure of profit and loss that our chief operating decision maker uses to evaluate the financial performance of the business and as the basis for performance reviews, compensation and resource allocation. For these reasons, we believe that Segment operating income represents the most relevant measure of segment profit and loss. We define Segment operating margin as Segment operating income as a percentage of *Net revenues* .

Three Months Ended June 30, 2019 Compared to the Three Months Ended June 30, 2018

Dollar amounts in millions	**2019**	**2018**	**Period Change**	**2019 % of revenues**	**2018 % of revenues**
Net revenues	$ 4,527.8	$ 4,357.7	$ 170.1		
Cost of goods sold	(3,094.1)	(2,964.1)	(130.0)	68.3%	68.0%
Selling and administrative expenses	(783.2)	(753.3)	(29.9)	17.3%	17.3%
Operating income	650.5	640.3	10.2	14.4%	14.7%
Interest expense	(64.7)	(50.3)	(14.4)		
Other income/(expense), net	3.4	(3.5)	6.9		
Earnings before income taxes	589.2	586.5	2.7		
Provision for income taxes	(123.3)	(128.0)	4.7		
Earnings from continuing operations	465.9	458.5	7.4		
Discontinued operations, net of tax	(5.6)	(5.9)	0.3		
Net earnings	$ 460.3	$ 452.6	$ 7.7		

Net Revenues

Net revenues for the three months ended June 30, 2019 increased by 3.9% , or $170.1 million , compared with the same period in 2018 , which resulted from the following:

Volume/product mix	2.4 %
Acquisitions	1.2 %
Pricing	1.9 %
Currency translation	(1.6)%
Total	3.9 %

The increase was primarily driven by higher volumes and improved pricing in both our Climate and Industrial segments. In addition, incremental revenues from acquisitions further contributed to the year-over-year increase. However, each segment was impacted by unfavorable foreign currency exchange rate movements.

Our revenues by segment for the three months ended June 30 were as follows:

Dollar amounts in millions	2019	2018	% change
Climate	$ 3,617.6	$ 3,493.8	3.5%
Industrial	910.2	863.9	5.4%
Total	$ 4,527.8	$ 4,357.7	

Climate

Net revenues for the three months ended June 30, 2019 increased by 3.5% or $ 123.8 million , compared with the same period of 2018 . The components of the period change were as follows:

Volume/product mix	2.7 %
Pricing	2.2 %
Currency translation	(1.4)%
Total	3.5 %

Industrial

Net revenues for the three months ended June 30, 2019 increased by 5.4% or $ 46.3 million , compared with the same period of 2018 . The components of the period change were as follows:

Volume/product mix	1.0 %
Acquisitions	5.9 %
Pricing	1.0 %
Currency translation	(2.5)%
Total	5.4 %

Operating Income/Margin

Operating margin decreased to 14.4% for the three months ended June 30, 2019 compared to 14.7% for the same period of 2018 . The decrease was primarily driven by higher spending on restructuring and investments (0.7%), transaction costs related to the acquisition of PFS and the proposed separation of our Industrial segment businesses (0.6%), acquisition related inventory step-up and backlog amortization (0.1%) and unfavorable foreign exchange rate movements (0.1%). These amounts were partially offset by pricing improvements in excess of material inflation (0.7%) and productivity benefits in excess of other inflation (0.5%).

Our *Operating income* and Operating margin by segment were as follows:

Dollar amounts in millions	2019 Operating Income (Expense)	2018 Operating Income (Expense)	Period Change	2019 Operating Margin	2018 Operating Margin
Climate	$ 613.5	$ 582.7	$ 30.8	17.0%	16.7%
Industrial	110.1	121.2	(11.1)	12.1%	14.0%
Unallocated corporate expenses	(73.1)	(63.6)	(9.5)	N/A	N/A
Total	$ 650.5	$ 640.3	$ 10.2	14.4%	14.7%

Climate

Operating margin increased to 17.0% for the three months ended June 30, 2019 compared to 16.7% for the same period of 2018 . The increase was primarily driven by pricing improvements in excess of material inflation, productivity benefits in excess of other inflation and favorable foreign exchange rate movements. These amounts were partially offset by higher spending on restructuring and investments.

Industrial

Operating margin decreased to 12.1% for the three months ended June 30, 2019 compared to 14.0% for the same period of 2018 . The decrease was primarily the result of higher spending on restructuring, acquisition related inventory step-up and backlog amortization, lower volume/product mix and unfavorable foreign exchange rate rate movements. These amounts were partially offset by productivity benefits in excess of other inflation and pricing improvements in excess of material inflation.

Unallocated Corporate Expenses

Unallocated corporate expense for the three months ended June 30, 2019 increased by $9.5 million compared with the same period of 2018 . The primary driver of the increase was due to transaction costs related to the acquisition of PFS and the proposed separation of our Industrial segment businesses of $10.3 million and $16.1 million, respectively. These costs were partially offset by lower compensation and benefit charges related to variable compensation and lower functional costs.

Interest Expense

Interest expense for the three months ended June 30, 2019 increased by $14.4 million compared with the same period of 2018 . The increase primarily relates to the issuance of $1.5 billion of senior notes during the first quarter of 2019 to finance the acquisition of PFS.

Other Income/(Expense), Net

The components of *Other income/(expense), net* for the three months ended June 30 were as follows:

In millions	**2019**	**2018**
Interest income (loss)	$ 3.2	$ 2.6
Exchange gain (loss)	0.6	(1.8)
Other components of net periodic benefit cost	(9.3)	(5.8)
Other activity, net	8.9	1.5
Other income/(expense), net	$ 3.4	$ (3.5)

Other income /(expense), net includes the results from activities other than normal business operations such as interest income and foreign currency gains and losses on transactions that are denominated in a currency other than an entity's functional currency. In addition, we include the components of net periodic benefit cost for pension and post retirement obligations other than the service cost component. Other activity, net includes items associated with Trane U.S. Inc. (Trane) for the settlement and defense of asbestos-related claims, insurance settlements on asbestos-related matters and the revaluation of its liability for potential future claims.

Provision for Income Taxes

For the three months ended June 30, 2019 , our effective tax rate was 20.9% which is slightly lower than the U.S. Statutory rate of 21% primarily due to excess tax benefits from employee share-based payments, a reduction in the Company's unrecognized tax benefits due to the settlement of an audit in a major tax jurisdiction and earnings in non-U.S. jurisdictions, which in aggregate have a lower effective tax rate. These amounts were partially offset by U.S. state and local income taxes, and certain non-deductible expenses. The effective tax rate for the three months ended June 30, 2018 was 21.8% which is higher than the U.S. statutory rate of 21% primarily due to U.S. state and local income taxes and certain non-deductible employee expense, partially offset by earnings in non-U.S. jurisdictions, which in aggregate have a lower effective tax rate and a reduction to the interest liability associated with our unrecognized tax benefits.

Discontinued Operations

The components of *Discontinued operations, net of tax* for the three months ended June 30 were as follows:

In millions	**2019**	**2018**
Pre-tax earnings (loss) from discontinued operations	$ (7.9)	$ (8.6)
Tax benefit (expense)	2.3	2.7
Discontinued operations, net of tax	$ (5.6)	$ (5.9)

Discontinued operations are retained obligations from previously sold businesses, including amounts related to the 2013 spin-off of our commercial and residential security business, that primarily include ongoing expenses for postretirement benefits, product liability and legal costs. In addition, we include costs associated with Ingersoll-Rand Company for the settlement and defense of asbestos-related claims, insurance settlements on asbestos-related matters and the revaluation of our liability for potential future claims.

Six Months Ended June 30, 2019 Compared to the Six Months Ended June 30, 2018

In millions, except per share amounts	2019	2018	Period Change	2019 % of revenues	2018 % of revenues
Net revenues	$ 8,103.7	$ 7,742.2	$ 361.5		
Cost of goods sold	(5,611.4)	(5,384.3)	(227.1)	69.2%	69.6%
Selling and administrative expenses	(1,523.3)	(1,474.2)	(49.1)	18.8%	19.0%
Operating income	969.0	883.7	85.3	12.0%	11.4%
Interest expense	(115.6)	(123.2)	7.6		
Other income/(expense), net	(15.4)	(7.5)	(7.9)		
Earnings before income taxes	838.0	753.0	85.0		
Provision for income taxes	(166.3)	(161.0)	(5.3)		
Earnings from continuing operations	671.7	592.0	79.7		
Discontinued operations, net of tax	(7.7)	(15.3)	7.6		
Net earnings	$ 664.0	$ 576.7	$ 87.3		

Net Revenues

Net revenues for the six months ended June 30, 2019 increased by 4.7% , or $361.5 million , compared with the same period in 2018 , which resulted from the following:

Volume/product mix	3.9 %
Acquisitions	0.6 %
Pricing	2.1 %
Currency translation	(1.9)%
Total	4.7 %

The increase was primarily driven by higher volumes and improved pricing in both our Climate and Industrial segments. In addition, incremental revenues from acquisitions further contributed to the year-over-year increase. However, each segment was impacted by unfavorable foreign currency exchange rate movements.

Our revenues by segment for the six month period ended June 30 are as follows:

Dollar amounts in millions	2019	2018	% change
Climate	$ 6,421.3	$ 6,103.6	5.2%
Industrial	1,682.4	1,638.6	2.7%
Total	$ 8,103.7	$ 7,742.2	

Climate

Net revenues for the six months ended June 30, 2019 increased by 5.2% or $ 317.7 million , compared with the same period of 2018 . The components of the period change are as follows:

Volume/product mix	4.6 %
Pricing	2.3 %
Currency translation	(1.7)%
Total	5.2 %

Industrial

Net revenues for the six months ended June 30, 2019 increased by 2.7% or $ 43.8 million , compared with the same period of 2018 . The components of the period change are as follows:

Volume/product mix	1.3 %
Acquisitions	3.1 %
Pricing	1.2 %
Currency translation	(2.9)%
Total	2.7 %

Operating Income/Margin

Operating margin increased to 12.0% for the six months ended June 30, 2019 compared to 11.4% for the same period of 2018 . The increase was primarily the result of pricing improvements in excess of material inflation (0.7%), productivity benefits in excess of other inflation (0.5%) and higher volume/product mix (0.1%). These amounts were partially offset by transaction costs related to the acquisition of PFS and the proposed separation of our Industrial segment businesses (0.3%), higher spending on investments (0.3%) and unfavorable foreign currency exchange rate movements (0.1%).

Dollar amounts in millions	**2019 Operating Income (Expense)**	**2018 Operating Income (Expense)**	**Period Change**	**2019 Operating Margin**	**2018 Operating Margin**
Climate	$ 926.6	$ 843.1	$ 83.5	14.4%	13.8%
Industrial	194.0	181.1	12.9	11.5%	11.1%
Unallocated corporate expenses	(151.6)	(140.5)	(11.1)	N/A	N/A
Total	$ 969.0	$ 883.7	$ 85.3	12.0%	11.4%

Climate

Operating margin increased to 14.4% for the six months ended June 30, 2019 compared to 13.8% for the same period of 2018 . The increase was primarily driven by pricing improvements in excess of material inflation, productivity benefits in excess of other inflation and higher volume/product mix. These amounts were partially offset by higher spending on investments and restructuring.

Industrial

Operating margin increased to 11.5% for the six months ended June 30, 2019 compared to 11.1% for the same period of 2018 . The increase was primarily the result of lower spending on restructuring and productivity benefits in excess of other inflation. These amounts were partially offset by unfavorable foreign currency exchange rate movements, lower volume/product mix, acquisition related inventory step-up and backlog amortization and material inflation in excess of pricing improvements.

Unallocated Corporate Expenses

Unallocated corporate expenses for the six months ended June 30, 2019 increased by $11.1 million compared with the same period of 2018 . The primary driver of the increase was due to transaction costs related to the acquisition of PFS and the proposed spin-off of our Industrial segment businesses of $12.2 million and $16.1 million, respectively. These costs were partially offset by lower functional costs and lower compensation and benefit charges related to variable compensation.

Interest Expense

Interest expense for the six months ended June 30, 2019 decreased $ 7.6 million compared with the same period of 2018 . The decrease primarily relates to $15.4 million of premium expense and $1.2 million of unamortized costs in *Interest expense* as a result of the redemption of $1.1 billion of senior notes during the first quarter of 2018. This amount was partially offset by *Interest expense* related to new debt issuances during the first quarter of 2018 and 2019.

Other Income/(Expense), Net

The components of *Other income/(expense), net* for the six months ended June 30 are as follows:

In millions		2019		2018
Interest income (loss)	$	2.6	$	6.2
Exchange gain (loss)		(3.7)		(9.1)
Other components of net periodic benefit cost		(20.4)		(9.7)
Other activity, net		6.1		5.1
Other income/(expense), net	$	(15.4)	$	(7.5)

Other income /(expense), net includes the results from activities other than normal business operations such as interest income and foreign currency gains and losses on transactions that are denominated in a currency other than an entity's functional currency. In addition, we include the components of net periodic benefit cost for pension and post retirement obligations other than the service cost component. Other activity, net includes items associated with Trane for the settlement and defense of asbestos-related claims, insurance settlements on asbestos-related matters and the revaluation of its liability for potential future claims.

Provision for Income Taxes

For the six months ended June 30, 2019 , our effective tax rate was 19.8 % which is lower than the U.S. statutory rate of 21% primarily due to excess tax benefits from employee share-based payments, a reduction in the Company's unrecognized tax benefits due to the settlement of an audit in a major tax jurisdiction and earnings in non-U.S. jurisdictions, which in aggregate have a lower effective tax rate. These amounts were partially offset by U.S. state and local taxes and certain non-deductible expenses. The effective tax rate for the six months ended June 30, 2018 was 21.4 % which was higher than the U.S. statutory rate of 21% primarily due to U.S. state and local income taxes and certain non-deductible employee expenses, partially offset by excess tax benefits from employee share-based payments, earnings in non-U.S. jurisdictions, which in aggregate have a lower effective tax rate and a reduction to the interest liability associated with our unrecognized tax benefits.

Discontinued Operations

The components of *Discontinued operations, net of tax* for the six months ended June 30 were as follows:

In millions		2019		2018
Pre-tax earnings (loss) from discontinued operations	$	(9.8)	$	(20.7)
Tax benefit (expense)		2.1		5.4
Discontinued operations, net of tax	$	(7.7)	$	(15.3)

Discontinued operations are retained obligations from previously sold businesses, including amounts related to the 2013 spin-off of our commercial and residential security business, that primarily include ongoing expenses for postretirement benefits, product liability and legal costs. In addition, we include costs associated with Ingersoll-Rand Company for the settlement and defense of asbestos-related claims, insurance settlements on asbestos-related matters and the revaluation of our liability for potential future claims.

Liquidity and Capital Resources

We assess our liquidity in terms of our ability to generate cash to fund our operating, investing and financing activities. In doing so, we review and analyze our current cash on hand, the number of days our sales are outstanding, inventory turns, capital expenditure commitments and income tax payments. Our cash requirements primarily consist of the following:

- Funding of working capital
- Funding of capital expenditures
- Dividend payments
- Debt service requirements

Our primary sources of liquidity include cash balances on hand, cash flow from operations, proceeds from debt offerings, commercial paper, and borrowing availability under our existing credit facilities. We earn a significant amount of our operating income in jurisdictions where it is deemed to be permanently reinvested. Our most prominent jurisdiction of operation is the U.S. We expect existing cash and cash equivalents available to the U.S. operations, the cash generated by our U.S. operations, our committed credit lines as well as our expected ability to access the capital and debt markets will be sufficient to fund our U.S. operating and capital needs for at least the next twelve months and thereafter for the foreseeable future. In addition, we expect existing non-U.S. cash and cash equivalents and the cash generated by our non-U.S. operations will be sufficient to fund our non-U.S. operating and capital needs for at least the next twelve months and thereafter for the foreseeable future.

As of June 30, 2019 , we had $ 875.6 million of cash and cash equivalents on hand, of which $747.4 million was held by non-U.S. subsidiaries. Cash and cash equivalents held by our non-U.S. subsidiaries are generally available for use in our U.S. operations via intercompany loans, equity infusions or via distributions from direct or indirectly owned non-U.S. subsidiaries for which we do not assert permanent reinvestment. As a result of the Tax Cuts and Jobs Act in 2017, additional repatriation opportunities to access cash and cash equivalents held by non-U.S. subsidiaries have been created. In general, repatriation of cash to the U.S. can be completed with no significant incremental U.S. tax. However, to the extent that we repatriate funds from non-U.S. subsidiaries for which we assert permanent reinvestment to fund our U.S. operations, we would be required to accrue and pay applicable non-U.S. taxes. As of June 30, 2019 , we currently have no plans to repatriate funds from subsidiaries for which we assert permanent reinvestment.

Share repurchases are made from time to time in accordance with management's capital allocation strategy, subject to market conditions and regulatory requirements. In October 2018, our Board of Directors authorized the repurchase of up to $1.5 billion of our ordinary shares under a share repurchase program (2018 Authorization) upon completion of the prior authorized share repurchase program. During the six months ended June 30, 2019, the Company repurchased and canceled approximately $250 million of its ordinary shares leaving approximately $1.25 billion remaining under the 2018 Authorization. In June 2018, we announced an increase in our quarterly share dividend from $0.45 to $0.53 per ordinary share. This reflects an 18% increase that began with our September 2018 dividend payment.

We continue to be active with acquisitions and joint venture activity. Since the beginning of 2018, we entered into a joint venture and acquired several businesses, including channel acquisitions, that complement existing products and services further growing our product portfolio. In May 2019, we acquired all the outstanding capital stock of PFS and utilized net proceeds from our $1.5 billion senior note debt issuance to finance the transaction. In addition, we are incurring costs related to the proposed spin-off of our Industrial segment businesses and combination with GDI. Through early 2020, we expect to incur costs ranging from $150 million to $200 million related to the separation activities. Lastly, we incur ongoing costs associated with restructuring initiatives intended to result in improved operating performance, profitability and working capital levels. Actions associated with these initiatives may include workforce reductions, improving manufacturing productivity, realignment of management structures and rationalizing certain assets. We expect that our available cash flow, committed credit lines and access to the capital markets will be sufficient to fund share repurchases, dividends, ongoing restructuring actions, acquisitions, separation-related activities and joint venture activity.

Liquidity

The following table contains several key measures of our financial condition and liquidity at the period ended:

In millions	June 30, 2019	December 31, 2018
Cash and cash equivalents	$ 875.6	$ 903.4
Short-term borrowings and current maturities of long-term debt (1)	829.2	350.6
Long-term debt	4,920.6	3,740.7
Total debt	5,749.8	4,091.3
Total Ingersoll-Rand plc shareholders’ equity	7,130.5	7,022.7
Total equity	7,172.9	7,064.8
Debt-to-total capital ratio	44.5%	36.7%

(1) During the second quarter of 2019, the Company reclassified its 2.625% Senior notes due May 2020 from noncurrent to current.

Debt and Credit Facilities

Our short-term obligations primarily consist of current maturities of long-term debt and commercial paper. We have outstanding $343.0 million of fixed rate debentures that contain a put feature that the holders may exercise on each anniversary of the issuance date. If exercised, we are obligated to repay in whole or in part, at the holder’s option, the outstanding principal amount (plus accrued and unpaid interest) of the debentures held by the holder. In addition, we also maintain a commercial paper program which is used for general corporate purposes. Under the program, the maximum aggregate amount of unsecured commercial paper notes available to be issued, on a private placement basis, is $2.0 billion . We had an outstanding balance of $179.0 million under our commercial paper program at June 30, 2019 . No amounts were outstanding at December 31, 2018 . See Note 7 to the Condensed Consolidated Financial Statements for additional information regarding the terms of our short-term obligations.

Our long-term obligations primarily consist of long-term debt with final maturity dates ranging between 2020 and 2049. In addition, we maintain two 5-year, $1.0 billion revolving credit facilities. Each senior unsecured credit facility, one of which matures in March 2021 and the other in April 2023, provides support for our commercial paper program and can be used for working capital and other general corporate purposes. Total commitments of $ 2.0 billion were unused at June 30, 2019 and December 31, 2018 . See Note 7 and Note 22 to the Condensed Consolidated Financial Statements for additional information regarding the terms of our long-term obligations and their related guarantees.

Cash Flows

The following table reflects the major categories of cash flows for the six months ended June 30 . For additional details, see the Condensed Consolidated Statements of Cash Flows in the Condensed Consolidated Financial Statements.

In millions	**2019**	**2018**
Net cash provided by (used in) continuing operating activities	$ 421.6	$ 414.5
Net cash provided by (used in) continuing investing activities	(1,587.3)	(444.9)
Net cash provided by (used in) continuing financing activities	1,159.3	(491.4)

Operating Activities

Net cash provided by continuing operating activities for the six months ended June 30, 2019 was $421.6 million , of which net income provided $969.3 million after adjusting for non-cash transactions. *Changes in assets and liabilities, net* used $ 547.7 million . Improvements in accounts payable were more than offset by the seasonal increase to inventory balances and higher outstanding accounts receivable from higher sales volumes. Net cash provided by continuing operating activities for the six months ended June 30, 2018 was $414.5 million , of which net income provided $880.9 million after adjusting for non-cash transactions. *Changes in assets and liabilities, net* used $ 466.4 million . Improvements in accounts payable were more than offset by the seasonal increase to inventory balances and higher outstanding accounts receivable from higher sales volume.

Investing Activities

Cash flows from investing activities represents inflows and outflows regarding the purchase and sale of assets. Primary activities associated with these items include capital expenditures, proceeds from the sale of property, plant and equipment, acquisitions, investment in joint ventures and divestitures. During the six months ended June 30, 2019 , net cash used in investing activities from continuing operations was $1,587.3 million . The primary driver of the usage was attributable to acquisitions in the period, including PFS, in which the total outflow, net of cash acquired, was approximately $1.5 billion. Other outflows included capital expenditures which totaled $116.7 million . Net cash used in investing activities from continuing operations for the six months ended June 30, 2018 was $444.9 million . The primary driver of the usage was attributable to the acquisition of several businesses and the investment of a 50% ownership interest in a joint venture with Mitsubishi. The total outflow, net of cash acquired, was $281.5 million. Other outflows included capital expenditures which totaled $163.4 million .

Financing Activities

Cash flows from financing activities represents inflows and outflows that account for external activities affecting equity and debt. Primary activities associated with these actions include paying dividends to shareholders, repurchasing our own shares, issuing our own stock and debt transactions. During the six months ended June 30, 2019 , net cash provided by financing activities from continuing operations was $1,159.3 million . The primary driver of the inflow related to the issuance of $1.5 billion of senior notes during the period to finance the acquisition of PFS. This amount was partially offset by dividends paid to ordinary shareholders of $259.4 million and the repurchase of $250.0 million in ordinary shares. Net cash used in financing activities from continuing operations for the six months ended June 30, 2018 was $491.4 million . Primary drivers of the cash outflow include dividends paid to ordinary shareholders of $221.8 million and the repurchase of $500.1 million in ordinary shares. These amounts were partially offset by borrowings from commercial paper during the period. In addition, we issued $1.15 billion of senior notes during the three months ended March 31, 2018. The issuance was predominately offset by the redemption of $1.1 billion of senior notes.

Discontinued Operations

Cash flows from discontinued operations primarily represent ongoing costs associated with postretirement benefits, product liability and legal costs from previously sold businesses. Net cash used in discontinued operating activities for the six months ended June 30, 2019 and 2018 primarily relates to ongoing costs.

Pensions

Our investment objective in managing defined benefit plan assets is to ensure that all present and future benefit obligations are met as they come due. We seek to achieve this goal while trying to mitigate volatility in plan funded status, contribution and expense by better matching the characteristics of the plan assets to that of the plan liabilities. We use a dynamic approach to asset allocation whereby a plan's allocation to fixed income assets increases as the plan's funded status improves. We monitor plan funded status and asset allocation regularly in addition to investment manager performance.

We monitor the impact of market conditions on our defined benefit plans on a regular basis. None of our defined benefit pension plans have experienced a significant impact on their liquidity due to the volatility in the markets. The Company currently projects that it will contribute approximately $104 million to its plans worldwide in 2019. For further details on pension plan activity, see Note 11 to the Condensed Consolidated Financial Statements.

For a further discussion of Liquidity and Capital Resources, refer to Part II, Item 7, “Management’s Discussion and Analysis of Financial Condition and Results of Operations,” contained in the Company’s Annual Report on Form 10-K for the period ended December 31, 2018 .

Commitments and Contingencies

We are involved in various litigations, claims and administrative proceedings, including those related to asbestos, environmental, and product liability matters. Amounts recorded for identified contingent liabilities are estimates, which are reviewed periodically and adjusted to reflect additional information when it becomes available. Subject to the uncertainties inherent in estimating future costs for contingent liabilities, except as expressly set forth in Note 21 to the Condensed Consolidated Financial Statements, management believes that the liability which may result from these legal matters would not have a material adverse effect on our financial condition, results of operations, liquidity or cash flows.

Critical Accounting Policies

Management’s Discussion and Analysis of Financial Condition and Results of Operations are based upon our Condensed Consolidated Financial Statements, which have been prepared in accordance with accounting principles generally accepted in the United States. The preparation of financial statements in conformity with those accounting principles requires management to use judgments in making estimates and assumptions based on the relevant information available at the end of each period. These estimates and assumptions have a significant effect on reported amounts of assets and liabilities, revenue and expenses, as well as the disclosure of contingent assets and liabilities because they result primarily from the need to make estimates and assumptions on matters that are inherently uncertain. Actual results may differ from estimates.

Management believes there have been no significant policy changes during the six months ended June 30, 2019 , to the items that we disclosed as our critical accounting policies in “Management’s Discussion and Analysis of Financial Condition and Results of Operations” in our Annual Report on Form 10-K for the year ended December 31, 2018 except for certain policy changes due to the required adoption of ASC 842, "Leases" on January 1, 2019. Refer to Note 3, "Recent Accounting Pronouncements" and Note 10, "Leases" for additional information related to the adoption of ASC 842.

Recent Accounting Pronouncements

See Note 3 to the Condensed Consolidated Financial Statements for a discussion of recent accounting pronouncements.

Safe Harbor Statement

Certain statements in this report, other than purely historical information, are “forward-looking statements” within the meaning of the Private Securities Litigation Reform Act of 1995, Section 27A of the Securities Act of 1933 and Section 21E of the Securities Exchange Act of 1934. These forward-looking statements generally are identified by the words “believe,” “project,” “expect,” “anticipate,” “estimate,” “forecast,” "outlook,” “intend,” “strategy,” “plan,” “may,” “could,” “should,” “will,” “would,” “will be,” “will continue,” “will likely result,” or the negative thereof or variations thereon or similar terminology generally intended to identify forward-looking statements.

Forward-looking statements may relate to such matters as projections of revenue, margins, expenses, tax provisions, earnings, cash flows, benefit obligations, share or debt repurchases or other financial items; any statements of the plans, strategies and objectives of management for future operations, including those relating to any statements concerning expected development, performance or market share relating to our products and services; any statements regarding future economic conditions or our performance; any statements regarding pending investigations, claims or disputes; any statements of expectation or belief; and any statements of assumptions underlying any of the foregoing. These statements are based on currently available information and our current assumptions, expectations and projections about future events. While we believe that our assumptions, expectations and projections are reasonable in view of the currently available information, you are cautioned not to place undue reliance on our forward-looking statements. You are advised to review any further disclosures we make on related subjects in materials we file with or furnish to the SEC. Forward-looking statements speak only as of the date they are made and are not guarantees of future performance. They are subject to future events, risks and uncertainties - many of which are beyond our control - as well as potentially inaccurate assumptions, that could cause actual results to differ materially from our expectations and projections. We do not undertake to update any forward-looking statements.

Forward-looking statements may also relate to our Reverse Morris Trust transaction with Gardner Denver Holdings, Inc. (GDI). These forward-looking statements are based on GDI's and Ingersoll Rand's current expectations and are subject to risks and uncertainties, which may cause actual results to differ materially from GDI's and Ingersoll Rand's current expectations. Should one or more of these risks or uncertainties materialize, or should underlying assumptions prove incorrect, actual results may vary materially from those indicated or anticipated by such forward-looking statements. The inclusion of such statements should not be regarded as a representation that such plans, estimates or expectations will be achieved. Important factors that could cause actual results to differ materially from such plans, estimates or expectations include, among others, (1) that one or more closing conditions to the transaction, including certain regulatory approvals, may not be satisfied or waived, on a timely basis or otherwise, including that a governmental entity may prohibit, delay or refuse to grant approval for the consummation of the proposed transaction, may require conditions, limitations or restrictions in connection with such approvals or that the required approval by the stockholders of GDI may not be obtained; (2) the risk that the proposed transaction may not be completed on the terms or in the time frame expected by Ingersoll Rand or GDI, or at all, (3) unexpected costs, charges or expenses resulting from the proposed transaction, (4) uncertainty of the expected financial performance of the combined company following completion of the proposed transaction; (5) failure to realize the anticipated benefits of the proposed transaction, including as a result of delay in completing the proposed transaction or integrating the businesses of GDI and Ingersoll Rand Industrial, or at all, (6) the ability of the combined company to implement its business strategy; (7) difficulties and delays in the combined company and ClimateCo achieving revenue and cost synergies; (8) inability of the combined company and ClimateCo to retain and hire key personnel; (9) the occurrence of any event that could give rise to termination of the proposed transaction; (10) the risk that stockholder litigation in connection with the proposed transaction or other settlements or investigations may affect the timing or occurrence of the proposed transaction or result in significant costs of defense, indemnification and liability, (11) evolving legal, regulatory and tax regimes; (12) changes in general economic and/or industry specific conditions; (13) actions by third parties, including government agencies; and (14) other risk factors detailed from time to time in Ingersoll Rand's and GDI's reports filed with the SEC, including Ingersoll Rand's and GDI's annual reports on Form 10-K.

Factors that might affect our forward-looking statements include, among other things:

- overall economic, political and business conditions in the markets in which we operate;
- the demand for our products and services;
- competitive factors in the industries in which we compete;
- changes in tax laws and requirements (including tax rate changes, new tax laws, new and/or revised tax law interpretations and any legislation that may limit or eliminate potential tax benefits resulting from our incorporation in a non-U.S. jurisdiction, such as Ireland);
- trade protection measures such as import or export restrictions and requirements, the imposition of tariffs and quotas or revocation or material modification of trade agreements;
- the outcome of any litigation, governmental investigations or proceedings;
- the outcome of any income tax audits or settlements;
- interest rate fluctuations and other changes in borrowing costs;
- other capital market conditions, including availability of funding sources;
- currency exchange rate fluctuations, exchange controls and currency devaluations;
- availability of and fluctuations in the prices of key commodities;
- impairment of our goodwill, indefinite-lived intangible assets and/or our long-lived assets;
- climate change, changes in weather patterns, natural disasters and seasonal fluctuations;
- the impact of potential information technology or data security breaches; and
- the strategic acquisition of businesses, product lines and joint ventures;

Some of the significant risks and uncertainties that could cause actual results to differ materially from our expectations and projections are described more fully in the "Risk Factors" section of this Quarterly Report on Form 10-Q and our Annual Report on Form 10-K for the fiscal year ended December 31, 2018 . There may also be other factors that have not been anticipated or that are not described in our periodic filings with the SEC, generally because we did not believe them to be significant at the time, which could cause results to differ materially from our expectations.

Item 3 – Quantitative and Qualitative Disclosures about Market Risk

For a discussion of the Company’s exposure to market risk, refer to Part II, Item 7A, “Quantitative and Qualitative Disclosures About Market Risk,” contained in the Company’s Annual Report on Form 10-K for the fiscal year ended December 31, 2018 . There has been no significant change in our exposure to market risk as of the second quarter of 2019 .

Item 4 – Controls and Procedures

The Company’s management, including its Chief Executive Officer and Chief Financial Officer, have conducted an evaluation of the effectiveness of disclosure controls and procedures (as such term is defined in Rules 13a-15(e) and 15d-15(e) under the Securities Exchange Act of 1934, as amended (the Exchange Act)), as of the end of the period covered by this Quarterly Report on Form 10-Q. Based on that evaluation, the Chief Executive Officer and Chief Financial Officer concluded as of June 30, 2019 , that the disclosure controls and procedures are effective in ensuring that all material information required to be filed in this Quarterly Report on Form 10-Q has been recorded, processed, summarized and reported when required and the information is accumulated and communicated to the Company's management, including its Chief Executive Officer and Chief Financial Officer, as appropriate, to allow timely decisions regarding required disclosure.

There has been no change in the Company’s internal control over financial reporting that occurred during the second quarter of 2019 that has materially affected, or is reasonably likely to materially affect, the Company’s internal control over financial reporting.

PART II – OTHER INFORMATION

Item 1 – Legal Proceedings

In the normal course of business, we are involved in a variety of lawsuits, claims and legal proceedings, including commercial and contract disputes, employment matters, product liability claims, asbestos-related claims, environmental liabilities, intellectual property disputes, and tax-related matters. In our opinion, pending legal matters are not expected to have a material adverse impact on our results of operations, financial condition, liquidity or cash flows.

Asbestos-Related Matters

Certain of our wholly-owned subsidiaries and former companies are named as defendants in asbestos-related lawsuits in state and federal courts. In virtually all of the suits, a large number of other companies have also been named as defendants. The vast majority of those claims allege injury caused by exposure to asbestos contained in certain historical products, primarily pumps, boilers and railroad brake shoes. None of our existing or previously-owned businesses were a producer or manufacturer of asbestos.

See also the discussion contained in our Annual Report on Form 10-K for the period ended December 31, 2018 under Part II, Item 7, Management's Discussion and Analysis of Financial Condition and Results of Operations and also Note 21 to the Condensed Consolidated Financial Statements in this Form 10-Q.

Item 1A – Risk Factors

There have been no material changes to our risk factors contained in our Annual Report on Form 10-K for the period ended December 31, 2018 or as further updated by the risk factors contained in our Form 10-Q for the period ended March 31, 2019.

Item 2 - Unregistered Sales of Equity Securities and Use of Proceeds

Issuer Purchases of Equity Securities

The following table provides information with respect to purchases of our ordinary shares during the second quarter of 2019 :

Period	Total number of shares purchased (000's) (a) (b)	Average price paid per share (a) (b)	Total number of shares purchased as part of program (000's) (a)	Approximate dollar value of shares still available to be purchased under the program ($000's) (a)
April 1 - April 30	—	$ —	—	$ 1,249,967
May 1- May 31	—	—	—	1,249,967
June 1 - June 30	9.7	125.22	—	1,249,967
Total	9.7	$ 125.22	—	

(a) Share repurchases are made from time to time in accordance with management's capital allocation strategy, subject to market conditions and regulatory requirements. In October 2018, our Board of Directors authorized the repurchase of up to $1.5 billion of our ordinary shares under a share repurchase program (2018 Authorization) upon completion of the prior authorized share repurchase program. There were no share repurchases under the 2018 Authorization during the second quarter.

(b) We may also reacquire shares outside of the repurchase program from time to time in connection with the surrender of shares to cover taxes on vesting of share based awards. We reacquired 9,735 shares in June in transactions outside of the repurchase programs.

Item 6 – Exhibits

(a) Exhibits

Exhibit No.	Description	Method of Filing
10.1	Amended and Restated Major Restructuring Severance Plan (as amended and restated effective April 18, 2019).	Filed herewith.
31.1	Certification of Chief Executive Officer Pursuant to Rule 13a-14(a) or Rule 15d-14(a), as Adopted Pursuant to Section 302 of the Sarbanes-Oxley Act of 2002.	Filed herewith.
31.2	Certification of Chief Financial Officer Pursuant to Rule 13a-14(a) or Rule 15d-14(a), as Adopted Pursuant to Section 302 of the Sarbanes-Oxley Act of 2002.	Filed herewith.
32	Certifications of Chief Executive Officer and Chief Financial Officer Pursuant to Rule 13a-14(b) or Rule 15d-14(b) and 18 U.S.C. Section 1350, as Adopted Pursuant to Section 906 of the Sarbanes-Oxley Act of 2002.	Furnished herewith.
101	The following materials from the Company’s Quarterly Report on Form 10-Q for the quarter ended June 30, 2019, formatted in iXBRL (Inline Extensible Business Reporting Language): (i) the Condensed Consolidated Statements of Comprehensive Income, (ii) the Condensed Consolidated Balance Sheets, (iii) the Condensed Consolidated Statements of Equity, (iv) the Condensed Consolidated Statements of Cash Flows, and (v) Notes to Condensed Consolidated Financial Statements.	Filed herewith.

INGERSOLL-RAND PLC

SIGNATURES

Pursuant to the requirements of the Securities Exchange Act of 1934, the registrant has duly caused this report to be signed on its behalf by the undersigned thereunto duly authorized.

INGERSOLL-RAND PLC
(Registrant)

Date: August 5, 2019	/s/ Susan K. Carter **Susan K. Carter, Senior Vice President and Chief Financial Officer Principal Financial Officer**
Date: August 5, 2019	/s/ Christopher J. Kuehn **Christopher J. Kuehn, Vice President and Chief Accounting Officer Principal Accounting Officer**

INGERSOLL-RAND plc

MAJOR RESTRUCTURING
SEVERANCE PLAN
(as amended and restated effective April 18, 2019)

Plan Document/Summary Plan Description

Ingersoll-Rand plc, a company organized under the laws of Ireland (" Parent "), has adopted the Ingersoll-Rand plc Major Restructuring Severance Plan (the " Plan ") for the benefit of certain Participant employees of Parent and its subsidiaries (hereinafter referred to as the " Company "), on the terms and conditions hereinafter stated. Participation in this Plan is intended to be limited to those employees designated as eligible for the Plan in Section 2 hereof.

The Plan was initially effective as of December 10, 2012, and this amended and restated plan shall be effective as of the date written above. This Plan supersedes, solely for the Participant, any prior plans, policies, guidelines, arrangements, agreements, letters and/or other communication, whether formal or informal, written or oral sponsored by the Company and/or entered into by any representative of the Company that might otherwise provide cash severance benefits upon a Covered Termination, including, without limitation, any statutorily required severance (collectively, all of those " Other Severance Arrangements "). This Plan represents the exclusive cash severance benefit provided to Participants upon a Covered Termination and such individuals shall not be eligible for any other cash severance benefits provided in Other Severance Arrangements with respect to any Covered Termination.

The Plan is not intended to be an "employee pension benefit plan" or "pension plan" within the meaning of Section 3(2) of ERISA. Rather, this Plan is intended to be a "welfare benefit plan" within the meaning of Section 3(1) of ERISA. Any benefits paid by the Plan are not intended to be deferred compensation, and no Participant shall have a vested right to such benefits. This Plan shall be administered in a manner consistent with this intent.

1. DEFINITIONS

(a) " Acknowledgement " shall mean the form of acknowledgement and agreement to the terms of the Plan, substantially in the form set forth in Exhibit A hereto.

(b) " Base Salary " shall mean a Participant's then current annual base salary immediately prior to his or her Involuntary Loss of Job (or, if higher, the annual base salary immediately prior to an event that constitutes Good Reason hereunder) exclusive of any bonus payments or additional payments under any benefit plan sponsored by the Company, including but not limited to, any ERISA plans, stock plans, incentive and deferred compensation plans, insurance coverage or medical benefits and without regard to any salary deferrals under the Company's benefit or deferred compensation plans or programs.

(c) " Board of Directors " shall mean the board of directors of Parent.

(d) " Bonus Plan " shall mean the Company's annual incentive matrix program (" AIM ") or comparable annual bonus program for any Participants who do not participate in AIM, as of the date of termination. For the avoidance of doubt, the term Bonus Plan shall not mean a sales plan or local incentive arrangement.

(e) " Cause " shall mean (i) any action by the Participant involving willful malfeasance or willful gross misconduct having a demonstrable adverse effect on the Company; (ii) substantial failure or refusal by the Participant to perform his or her employment duties, which failure or refusal continues for a period of 10 days following delivery of written notice of such failure or refusal to the Participant by the Company; (iii) the Participant being convicted of a felony under the laws of the United States or any state or district or any foreign jurisdiction; or (iv) or any material violation of the Company's code of conduct, as in effect from time to time.

(f) " Change in Control " shall have the meaning set forth in the Incentive Plan.

(g) " Code " shall mean the Internal Revenue Code of 1986, as amended, and the rules and regulations promulgated thereunder, as well as any successor laws in replacement thereof.

(h) " Compensation Committee " shall mean the Compensation Committee of the Board of Directors.

(i) " Covered Termination " shall mean, as to any Major Restructuring, a Participant's Involuntary Loss of Job that occurs between the announcement of such Major Restructuring and the first anniversary of the effective date of such Major Restructuring; *provided* , that if the Company can reasonably demonstrate that a Participant's Involuntary Loss of Job is not substantially related to, or as a result of, a Major Restructuring, such Involuntary Loss of Job shall not be considered a Covered Termination hereunder. If a Major Restructuring is effectuated by a series of transactions, then the term "effective date" as used in this definition shall refer to the last effective date for the transactions comprising the Major Restructuring.

(j) " Eliminated Entity " shall mean each entity that is ceases to be a member of the Parent controlled group in connection with a Major Restructuring.

(k) " Employer " shall mean, with respect to any Participant, the Parent or the applicable subsidiary of the Parent that such Participant is employed with, or following a Major Restructuring, to the extent such Participant's employment is with the Eliminated Entity, the Eliminated Entity.

(l) " ERISA " shall mean the Employee Retirement Income Security Act of 1974, as amended, and the rules and regulations promulgated thereunder, as well as any successor laws in replacement thereof.

(m) " Good Reason " shall mean (i) a substantial diminution in the Participant's job responsibilities or a material adverse change in the Participant's title or status; *provided* , that performing the same job for a smaller organization following a Major Restructuring shall not constitute Good Reason hereunder; (ii) a reduction of the Participant's Base Salary or Target Bonus (provided, however, a reduction of the Participant's Base Salary or Target Bonus shall not constitute Good Reason hereunder if there is a broad-based reduction in the Base Salary or Target Bonus applicable to employees in the Company) or the failure to pay Participant's Base Salary or bonus when due, or the failure to maintain on behalf of the Participant (and his or her dependents) benefits which are at least comparable in the aggregate to those prior to the completion of the Major Restructuring, or (iii) the relocation of the principal place of Participant's employment by more than thirty five (35) miles from the Participant's principal place of employment immediately prior to the completion of the Major Restructuring; *provided* , that any of the events described in clauses (i) - (iii) above shall constitute a Covered Termination only if the Company fails to cure such event within 30 days after receipt from the Participant of written notice of the event which constitutes a Covered Termination; and *provided further* , that such Participant shall cease to have a right to terminate due to Good Reason on the 90 th day following the later of the occurrence of the event or the Participant's knowledge thereof, unless the Participant has given the Company notice thereof prior to such date.

(n) " Incentive Plan " shall mean the Company's Incentive Stock Plan of 2018, as may be amended from time to time, or a successor plan to the Incentive Stock Plan of 2018.

(o) " Involuntary Loss of Job " shall mean, with respect to any Participant, the termination of such Participant's employment with the Employer (i) by the Employer without Cause, or (ii) by the Participant with Good Reason; *provided* , *however* , that solely the transfer of a Participant's employment from the Employer to an Eliminated Entity shall in no event constitute an Involuntary Loss of Job hereunder.

(p) " Major Restructuring " shall mean a reorganization, recapitalization, extraordinary stock dividend, merger, sale, spin-off or other similar transaction or series of transactions, which individually or in the aggregate, has the effect of resulting in the elimination of all, or the majority of, any one or more of the Company's two business segments (i.e. , Climate and Industrial), so long as such transaction or transactions do not constitute a Change in Control.

(q) " Participant " shall mean an individual who satisfies the Plan eligibility requirements described in Section 2 of the Plan.

(r) " Plan Administrator " shall mean the Vice President, Total Rewards and VP, Treasury.

(s) " Plan Sponsor " shall mean the Parent.

(t) " Release Agreement " shall mean the Release Agreement in substantially the same form attached hereto as Exhibit B (as the same may be revised from time to time by the Company).

(u) "Severance Multiple" shall mean the Severance Multiple set forth in a Participant's Acknowledgement.

(v) "Target Bonus" shall mean a Participant's target annual bonus under the Bonus Plan, as of the date of termination.

2. ELIGIBILITY

An employee of the Company who either (a) is in the Executive Band or above or (b) was moved from the Executive Band to Band 7 during the 12 months immediately preceding the announcement of a Major Restructuring; *provided that,* as a condition of participation in the Plan, the Participant must execute and submit the Acknowledgement, thereby agreeing to be bound by all of the terms and conditions of the Plan, except as set forth in such acknowledgement and agreement.

3. TERMINATION OF EMPLOYMENT

(a) Payments on Covered Termination. If a Participant undergoes a Covered Termination, subject to such Participant's execution and delivery, and if applicable, non-revocation of the Release Agreement, as contemplated in subsection (c) below, such Participant shall be entitled to the following payments from the Company: (1) the Participant's bonus under the Bonus Plan for the year in which the Participant's Covered Termination occurred, pro-rated for the months of service up to and including the month of termination and based on actual performance for the year, payable concurrently with bonus payments to other employees under the applicable bonus plan (but in all events prior to March 15 of the calendar year immediately following the calendar year in which such Covered Termination occurs), which is subject to Company performance and the other terms and conditions of the applicable bonus awards; (2) a payment in an amount equal to such Participant's Severance Multiple multiplied by the sum of such Participant's Base Salary and Target Bonus, such amount to be paid in one lump sum as soon as practicable after the Participant's Covered Termination and, in no event, later than sixty (60) days after the date of such Covered Termination; and (3) if the Participant is participating in the Company's Elected Officer Supplemental Plan ("EOSP") or the Key Management Supplemental Plan ("KMP"), and is not vested in his or her benefit under Section 3.1 of the EOSP or KMP, as applicable, a payment equal to the amount of the benefit that was accrued as of the Participant's termination date to which such Participant would have been entitled had he or she vested under Section 4.1 of the EOSP or KMP, as applicable, with the payment thereof (including time and form of payment) and all other terms and conditions with respect thereto, being determined as if the payment hereunder were a vested benefit under the EOSP or KMP, as applicable.

(b) Other Termination Events. If a Participant voluntarily terminates employment for any reason, other than pursuant to a Covered Termination, such Participant shall not be entitled to the payment of any severance or other benefits under the Plan. In addition, if a Participant's termination of employment does not result in a Covered Termination, such Participant shall cease to participate in the Plan effective as of the date of such termination of employment and have no further rights with respect thereto.

(c) Release Agreement. Notwithstanding any provision herein to the contrary, the payment of any amount or provision of any benefit pursuant to subsection (a) above shall be conditioned upon a Participant's execution, delivery to the Company, and non-revocation of the Release Agreement (and the expiration of any revocation period contained in such Release Agreement) within sixty (60) days following the date of a Covered Termination. If a Participant fails to execute the Release Agreement in such a timely manner so as to permit any revocation period to expire prior to the end of such sixty (60) day period, or timely revokes his or her acceptance of such release following its execution, such Participant shall not be entitled to payment of any severance and other benefits under the Plan. Further, subject to Section 8(f), to the extent that any of the payments hereunder constitute "nonqualified deferred compensation" for purposes of Section 409A of the Code, any payment of any amount or provision of any benefit otherwise scheduled to occur prior to the sixtieth (60^{th}) day following the date of such Covered Termination, but for the condition on executing the Release Agreement as set forth herein, shall not be made until the first regularly scheduled payroll date following such sixtieth (60^{th}) day, after which any remaining payments shall thereafter be provided to the Participant according to the applicable schedule set forth herein.

4. ADDITIONAL TERMS

(a) Taxes. Severance and other payments under the Plan will be subject to all required federal, state and local taxes and may be affected by any legally required withholdings, such as wage attachments, child support and bankruptcy deductions. Unless the terms of one or more of the Company's retirement, savings or incentive plans expressly provide otherwise, payments under the Plan are not deemed "compensation" for purposes of the Company's retirement plans, savings plans, and incentive plans. Accordingly, no deductions will be taken for any of Company retirement and savings plans and such plans will not accrue any benefits attributable to payments under the Plan.

(b) Specified Employees . Notwithstanding anything herein to the contrary, (1) if, at the time of a Participant's Covered Termination with the Company, such Participant is a "specified employee" as defined in Code Section 409A and regulations thereunder, and the deferral of the commencement of any payments or benefits otherwise payable hereunder as a result of such termination of employment is necessary in order to prevent the imposition of any accelerated or additional tax under Code Section 409A, then the Company will defer commencement of the payment of any such payments or benefits hereunder (without any reduction or increase in such payments or benefits ultimately paid or provided to the Participant) until the date that is six (6) months following such Participant's termination of employment with the Company (or the earliest date that is permitted under Code Section 409A); and (2) if any other payments of money or other benefits due to the Participant hereunder would cause the application of an accelerated or additional tax under Code Section 409A, such payments or other benefits shall be deferred if deferral will make such payment or other benefits compliant under Code Section 409A, or otherwise such payment or other benefits shall be restructured, to the extent possible, in a manner, determined by or at the direction of the Plan Administrator, that does not cause such an accelerated or additional tax or result in additional cost to the Company.

5. TERMINATION OR AMENDMENT OF THE PLAN

Although the Plan is designed to provide severance and other benefits to eligible employees as provided herein, the Board of Directors or the Compensation Committee may amend or terminate the Plan in whole or in part at any time without notice to any Participant.

6. GOVERNING BENEFITS

Except as specifically referenced herein, the benefits under this Plan replace and supersede any cash severance benefits payable upon a Covered Termination previously established under Other Severance Arrangements. In no event shall any Participant receive more than the cash severance benefits provided for herein, and any cash severance benefits provided under any Other Severance Arrangement or otherwise, to the extent paid, shall reduce the amounts to be paid hereunder.

7. CLAIMS PROCEDURE

(a) Initial Claim for Benefits . Claims for benefits under the Plan made by an Participant or Beneficiary covered by the Plan must be submitted to Employee Services or its successor, as designated by the Plan Administrator. Approved claims will be paid as provided in this Plan.

In the event there is a dispute, all claims must be submitted to the Plan Administrator in writing and within one year of:

(i) in the case of any lump sum payment, the date on which the payment was made or allegedly should have been made, and

(ii) in the case of an installment payment, the date of the first installment payment or the date it allegedly should have been paid.

(b) Notification of Denial of Claim . If a claim is denied in whole or in part, the claimant will be notified by written notice, in a manner calculated to be understood by the claimant. The notice will include:

(i) the specific reason or reasons for the denial of the claim;

(ii) the specific references to the pertinent Plan provisions on which the denial is based;

(iii) a description of any additional material or information necessary to perfect the claim, and an explanation of why such material or information is necessary;

(iv) a description of the Plan's claim review procedure and the time limits applicable to such procedure; and

(v) a statement of the claimant's right to bring a civil action in accordance with Section 502(a) of ERISA if the claimant's claim is denied upon review.

(c) Timing of Claim Decision. Such notification shall be given within 90 days after the claim is received. This period may be extended for another 90 days if the claimant is notified that the extension is necessary due to matters beyond the control of the Plan, before the end of the original 90-day period. Any notice for an extension will explain the reason for the extension and the date by which the Plan Administrator expects to rule on the claim.

(d) Appeal of Claim Decision. Upon denial of a claim in whole or in part, a claimant or his duly authorized representative shall have the right to submit a written request to the Plan Administrator for a full and fair review of the denied claim, to submit written comments, documents, records, and other information relating to the claim, and to be provided, upon request and free of charge, access to, and copies of, all documents, records and other information relevant to the claimant's claim for benefits. A request for review of a claim must be submitted within 60 days of receipt by the claimant of written notice of the denial of the claim.

(e) Timing of Decision on Appeal. The Plan Administrator or any designee thereof shall advise the claimant of the results of the review within 60 days after receipt of the written request for review. This period may be extended for another 60 days if the Plan Administrator determines that special circumstances require an extension of time for processing the request and if written notice of such extension and circumstances is given to such claimant within the initial 60-day period. Any notice for an extension will explain the reason for the extension and the date by which the Plan Administrator expects to rule on the claim.

(f) Notice of Benefit Determination on Appeal. In the event an appeal is denied, the claimant will be notified in writing. The Plan Administrator shall set forth in the notice:

(i) the specific reason or reasons for the denial of the claim;

(ii) the specific references to the pertinent Plan provisions on which the denial is based;

(iii) a statement of the claimant's right to receive, upon request and free of charge, reasonable access to, and copies of, all documents, records, and other information relevant to the claimant's claim for benefits; and

(iv) a statement of the claimant's right to bring a civil action in accordance with Section 502(a) of ERISA.

(h) Time to File Civil Action, Governing Law and Venue. In the event a claimant's appeal is denied by the Plan Administrator, he or she shall have a right to bring a civil action under Section 502(a) of ERISA. Any such legal action must be filed within twelve (12) months of the appeal having been denied. Any lawsuit filed shall be governed by ERISA, or to the extent not preempted, the laws of the state of North Carolina and shall be brought in the United States District Court for the Western District of North Carolina; provided, however, that a legal action for individual benefits may also be filed in the United States District Court in the district that includes the plaintiff's residence.

8. GENERAL INFORMATION

(a) No Right to Continued Employment. Nothing contained in this Plan shall confer upon any Participant any right to continue in the employ of the Company nor interfere in any way with the right of the Company to terminate his or her employment, with or without cause.

(b) Plan Not Funded. Amounts payable under this Plan shall be payable from the general assets of the Company, and no special or separate reserve, fund or deposit shall be made to assure payment of such amounts. No Participant, beneficiary or other person shall have any right, title or interest in any fund or in any specific asset of the Company by reason of participation hereunder. Neither the provisions of this Plan, nor the creation or adoption of this Plan, nor any action taken pursuant to the provisions of this Plan shall create, or be construed to create, a trust of any kind or a fiduciary relationship between the Company and any Participant, beneficiary or other person. To the extent that a Participant, beneficiary or other person acquires a right to receive payment under this Plan, such right shall be no greater than the right of any unsecured general creditor of the Company.

(c) Non-Transferability of Benefits and Interests . Except as expressly provided by the Plan Administrator, all amounts payable under this Plan are non-transferable, and no amount payable under this Plan shall be subject in any manner to sale, transfer, anticipation, alienation, assignment, pledge, encumbrance or charge. This Section shall not apply to an assignment of a contingency or payment due: (1) after the death of a Participant to the deceased Participant's legal representative or beneficiary; or (2) after the disability of a Participant to the disabled Participant's personal representative. The beneficiary of a Participant who also participates in the Ingersoll-Rand Company Employee Savings Plan (the " ESP ") shall be the beneficiary (or beneficiaries) designated or determined under the ESP. For a Participant who does not participate in the ESP, the beneficiary (or beneficiaries) of such Participant shall be the default beneficiary (or beneficiaries) specified under the applicable provisions of the ESP.

(d) Discretion of Plan Administrator . The Plan Administrator shall have the sole responsibility for the administration of the Plan with all powers necessary to enable it properly to carry out its duties in that respect; and its decisions on all matters within the scope of its authority shall be final. The Plan Administrator shall have and shall exercise complete discretionary authority to construe, interpret, and apply all of the terms of the Plan, including all matters relating to eligibility for benefits, amount, time or form of benefits, and any disputed or allegedly doubtful terms. In exercising such discretion, the Plan Administrator shall give controlling weight to the intent of the sponsor of the Plan. Specifically, but not in limitation of the broad power herein conferred, the Plan Administrator shall have the power, pursuant to the Plan, to determine:

(i) whether a person working for the Company is a Participant in the Plan;

(ii) the service of any Participant;

(iii) the compensation (including Base Salary and Target Bonus) of any Participant;

(iv) all other questions involving constriction of the Plan or of any of the terms or provisions thereof.

The foregoing list of powers and discretion is not intended to be either complete or exclusive, and the Plan Administrator shall, in addition, have such powers and discretion as it may determine to be necessary for the performance of its administrative duties under the Plan. The Plan Administrator's exercise of its discretion shall be exclusive and binding on all parties concerned, including without limitation, any and all Participants, beneficiaries, spouses, heirs, distributes, estates, executors, administrators and assigns.

(e) Indemnification . The Company may indemnify all persons who are or may be determined to be fiduciaries as that term is defined in ERISA, including independent professional advisors and service organizations which is it contractually obligated to indemnify, to the extent permitted by law against any and all claims, loss, damages, expenses and liability from any action or failure to act, except when such action or failure to act is due to the gross negligence, willful misconduct or willful breach of fiduciary duty of such person.

(f) Section 409A . Notwithstanding any provision of the Plan to the contrary, if any benefit provided under this Plan is subject to the provisions of Code Section 409A and the regulations issued thereunder, the provisions of the Plan will be administered, interpreted and construed in a manner necessary to comply with Section 409A or an exception thereto. To the extent required to comply with Code Section 409A, any amounts due under this Plan that are determined to be in substitution of amounts that would have been paid under Other Severance Arrangements shall be paid at the time and in the form that such amount would have been paid under the Other Severance Arrangements. Notwithstanding any provision of the Plan to the contrary, in no event shall the Company (or its employees, officers or directors) have any liability to any Participant (or any other person) due to the failure of the Plan to satisfy the requirements of Code Section 409A or any other applicable law.

(g) Law to Govern . All questions pertaining to the construction, regulation, validity and effect of the provisions of this Plan shall be determined in accordance with the laws of the State of North Carolina, to the extent not governed by ERISA.

(h) Notice . Any notice or other communication required or which may be given pursuant to this Plan shall be in writing and shall be deemed to have been duly given when delivered by hand or overnight courier or two days after it has been mailed by United States express or registered mail, return receipt requested, postage prepaid, addressed to the Parent, Attn: Corporate

Secretary, c/o Ingersoll-Rand Company, 800-E Beaty Street, Davidson, North Carolina 28036 or to the Participant at his or her most recent address on file with the Company

(i) Captions. Captions and headings are given to the sections and subsections of this Plan solely as a convenience to facilitate reference. Such headings shall not be deemed in any way material or relevant to the construction or interpretation of this Plan or any provision thereof.

(j) Successors. The provisions of this Plan shall inure to the benefit of and be binding upon the Company, its successors and assigns.

9. STATEMENT OF ERISA RIGHTS

As a Participant in the Plan is entitled to certain rights and protection under the Employee Retirement Income Security Act of 1974, as amended (ERISA). ERISA provides that all participants shall be entitled to:

Receive Information About Your Plan and Benefits

A. Examine, without charge, at the Plan Administrator's office and at other specified locations, such as Company work sites, all documents governing the Plan, and a copy of the latest annual report (Form 5500 series) filed by the Plan Administrator with the U.S. Department of Labor.

B. Obtain, upon written request to the Plan Administrator, copies of documents governing the operation of the Plan, and a copy of the latest annual report (Form 5500 series) and updated summary plan description. The Plan Administrator may make a reasonable charge for the copies.

C. Receive a summary of the Plan's annual financial report, if any. The Plan Administrator is required by law to furnish each participant with a copy of this summary annual report.

Prudent Actions by Plan Fiduciaries

In addition to creating rights for Plan Participants, ERISA imposes duties upon the people who are responsible for the operation of the Plan. The people who operate your Plan, called "fiduciaries" of the Plan, have a duty to do so prudently and in the interest of you and other Plan participants and beneficiaries. No one, including your employer or any other person, may fire you or otherwise discriminate against you in any way to prevent you from obtaining a welfare benefit or exercising your rights under ERISA.

Enforce Your Rights

If your claim for a welfare benefit is denied or ignored, in whole or in part, you have a right to know why this was done, to obtain copies of documents relating to the decision without charge, and to appeal any denial, all within certain time schedules.

Under ERISA, there are steps you can take to enforce the above rights. For instance, if you request a copy of Plan documents or the latest annual report from the Plan and do not receive them within 30 days, you may file suit in a federal court. In such a case, the court may require the Plan Administrator to provide the materials and pay you up to $110 a day until you receive the materials, unless the materials were not sent because of reasons beyond the control of the Plan Administrator. If you have a claim for benefits which is denied or ignored, in whole or in part, you may file suit in a state or federal court in accordance with the Plan's claims review procedures. If it should happen that Plan fiduciaries misuse the Plan's money, of if you are discriminated against for asserting your rights, you may seek assistance from the U.S. Department of Labor, or you may file suit in a federal court. The court will decide who should pay court costs and legal fees. If you are successful the court may order the person you have sued to pay these costs and fees. If you lose, the court may order you to pay these costs and fees, for example, if it finds your claim is frivolous.

Assistance with Your Questions

If you have any questions about your Plan, you should contact the Plan Administrator. If you have any questions about this statement or about your rights under ERISA, of if you need assistance in obtaining documents from the Plan Administrator, you should contact the nearest office of the Employee Benefits Security Administration, U.S. Department of Labor, listed in your telephone directory or the Division of Technical Assistance and Inquiries, Employee Benefits Security Administration, U.S. Department of Labor, 200 Constitution Avenue N.W., Washington, D.C. 20210. You may also obtain certain publications about your rights and responsibilities under ERISA by calling the publications hotline of the Employee Benefits Security Administration.

10. PLAN IDENTIFICATION INFORMATION

Employer	Ingersoll-Rand, plc and its subsidiaries
Official Plan Name	Ingersoll-Rand, plc Major Restructuring Severance Plan
Plan Sponsor	Ingersoll-Rand, plc
Plan Administrator	Plan Administrator, as described in the definitions section of the Plan 800-E Beaty Street Davidson, NC 28036
Type of Administration	Administered by Plan Administrator
Agent for Service of Legal Process	Ingersoll-Rand Company c/o Senior Vice President and General Counsel 800-E Beaty Street Davidson, NC 28036 Service or legal process may also be directed to the Plan Administrator.
Employer Identification Number	98-0626632
Plan Number	594
Plan Type	Welfare plan providing severance benefits
Plan Year	January 1 – December 31
Plan Funding	Unfunded plan; benefits paid from general assets of the Employer

Exhibit A

INGERSOLL-RAND plc

MAJOR RESTRUCTURING SEVERANCE PLAN

Acknowledgment and Agreement

Name: ________________

Severance Multiple: ______________

I hereby agree to the terms and conditions of the Ingersoll-Rand plc Major Restructuring Severance Plan (the " Plan "). I understand that pursuant to my agreement to be covered under the Plan, as indicated by my signature below, the terms of the Plan will exclusively govern all subject matter addressed by the Plan and I understand that the Plan supersedes and replaces, as applicable, any and all agreements (including any prior employment agreement), plans, policies, guidelines or other arrangements, including Other Severance Arrangements (as defined in the Plan), with respect to the subject matter covered under the Plan and my rights to cash severance upon any Covered Termination (as defined in the Plan).

Dated: ____________________

PARTICIPANT

____

<u>Exhibit B</u>

RELEASE AGREEMENT

Date

Name

Address

Address

Dear __________:

This Agreement and Release (the "Agreement") by and between you and Ingersoll-Rand Company, its parents, affiliates and subsidiaries (the "Company") sets forth the terms of your separation of employment from the Company.

1. Your active employment with the Company will cease as of ________ (the "Termination Date"). Your compensation will continue through the Termination Date.

2. Your separation arrangements will consist of the following:

   As a result of your participation in the Ingersoll-Rand plc Major Restructuring Severance Plan (the "Plan"), and your separation of employment with the Company constituting a Covered Termination (as defined in the Plan), you will be entitled to the severance benefits described in Section 3(a) of the Plan, subject to the terms and conditions of this Agreement.

   You are eligible for COBRA and will receive a package in the mail from ______. Please review the package carefully for election requirements. If you have questions regarding retiree medical eligibility, please call the Employee Services Contact Center at 1-866-472-6793.

   None of the above payments shall be considered compensation for the purposes of benefits or payments under any employee benefit program of the Company.

   These separation arrangements and other benefits described in this Agreement exceed the Company's regular severance policies and programs.

   The arrangements described above are in lieu of any other obligations the Company may have to you unless specifically mentioned in this Agreement.

   All vested retirement benefits for which you may be eligible will be paid according to specific plan provisions.

   Treatment of any equity based or other incentive award (including, any stock options, SAR's, RSU's and PSU's) in connection with any Participant's termination of employment for any reason will be governed by the applicable terms and conditions of the specific award, or the plans or programs under which any such award was granted or issued.

For any questions, please contact UBS directly at 1 (877) 476-7839.

3. In exchange for the benefits described in paragraph 2 above:

a) You agree to promptly provide to the Company by the Termination Date, all expense reports, all documents whether in written or electronic format, as well as all Company assets, such as cell phones, personal electronic devices, computer equipment, keys, security cards and/or company identification cards in your possession pertaining to your work at the Company.

b) You acknowledge:

- that any trade secrets, or confidential business/technical information of the Company, its suppliers or customers, (whether reduced to writing, maintained on any form of electronic media, maintained in your mind or memory or whether compiled by you or the Company) derive independent economic value from not being readily known to or ascertainable by proper means by others, who can obtain such economic value from their disclosure or use;

- that reasonable efforts have been made by the Company to maintain the secrecy of such information;

- that such information is the sole property of the Company (or its suppliers or customers); and

- that you agree not to retain, use or disclose such information during or after your employment. You further agree that any such retention, use or disclosure, in violation of this Agreement, will constitute a misappropriation of trade secrets of the Company (or its suppliers or customers) and a violation of the Code of Conduct and Proprietary Agreements that you have previously made with the Company. You also agree that the Company may seek injunctive relief and damages to enforce this provision.

c) You agree not to disclose the existence or the terms of this agreement to anyone inside or outside the Company, subordinates or any other employees of the Company. This shall not preclude disclosure to your spouse, attorney, financial advisor, designated Company representative, or in response to a governmental tax audit or judicial subpoena. You also agree to instruct those to whom you disclose the terms of this agreement not to disclose the existence of its terms and conditions to anyone else. This provision shall also not preclude you from disclosing this agreement and its terms in a legal proceeding to enforce its terms. The Company will hold you personally responsible for losses it incurs as a result of violation by you of this confidentiality obligation.

d) For a period of twelve (12) months following the Termination Date, you agree not to directly or indirectly recruit or attempt to recruit or hire any employee(s), sales representative(s), agent(s) or consultant(s) of the Company to terminate their employment, representation or other association with the Company without the prior written consent of the Company.

e) You agree not to make any statement or criticism that could reasonably be deemed to be adverse to the interests of the Company or its current or former officers, directors, or employees. Without limiting the generality of the foregoing, this includes any disparaging statements concerning, or criticisms of, the Company and its current or former directors, officers or, employees, made in public forums or to the Company's investors, external analysts, customers and service providers. You agree that any violation of these commitments will be a material breach by you of this Agreement and the Company will have no further obligation to provide any compensation or benefits referred to in this Agreement. You will also be liable for damages (both compensatory and punitive) to the fullest extent of the law as a result of the injury incurred by the Company as a result of such remarks or communications.

f) [DELETE this section if employee works in California, Montana, North Dakota, Oklahoma, or Oregon.] For a period of _____ weeks [Note: should be equal to amount of weeks of Base Salary provided as severance benefits under the Plan] following the Termination Date, you agree to refrain from competing with the Company with respect to any aspect of its businesses, including without limitation, the design, manufacture, sale or distribution of similar or competitive products as an employee or consultant/representative of a competitor of any IR component, sector or business you have worked for in the last 5 years. If an arbitrator or a court shall finally hold that the time or territory or any other provisions stated in this Section (Non-Competition) constitute an unreasonable restriction upon you, the provisions of this Agreement shall not be rendered void, but shall instead apply to a lesser extent as such arbitrator or court may determine constitutes a reasonable restriction under the circumstances involved.

g) [DELETE this section if employee works in California, Montana, North Dakota, Oklahoma, or Oregon.] For a period of _____ weeks [Note: should be equal to amount of weeks of Base Salary provided as severance benefits under the Plan] following the Termination Date, you agree you will not, directly or indirectly, for your own account or for the account of others, solicit the business of or perform services for the business of any “Company Customer”. Company Customer means any individual or entity for whom/which the Company provides or has provided services or products or has made a proposal to provide services or products and with whom/which you have had contact on behalf of the Company or for whom/which you were engaged in preparing a proposal during the last 5 years preceding the end of my employment.

4. a) You hereby irrevocably and unconditionally release and forever discharge the Company and each and all of its successors, predecessors, businesses, affiliates, and assigns and all person acting by, through and under or in concert with any of them from any and all complaints, claims, compensation program payments and liabilities of any kind (with the exception of claims for workers’ compensation and unemployment claims), suspected or unsuspected (hereinafter referred to as “Claim” or “Claims”) which you ever had, now have, or which may arise in the future, regarding any matter arising on or before the date of your execution of this Agreement, including but not limited to any Claims under the Age Discrimination in Employment Act (29 U.S.C §621), the Older Workers Benefit Protection Act of 1990 (29 U.S.C. §626 *et seq* .), Title VII of the Civil Rights Act of 1964, (42 U.S.C. §2000e *et seq* .), as amended by the Civil Rights Act of 1991, (42 U.S.C. §1981 *et seq* .), Sections 1981 through 1988 of Title 42 of the United States Code, the Americans with Disabilities Act (42 U.S.C. §12101 *et seq* .), Title II of the Genetic Information Nondiscrimination Act of 2008, 42 U.S.C. §2000ff *et seq* .) [Add pertinent state statutes] and/or other applicable federal, state or local law, regulation, ordinance or order, and including all claims for, or entitlement to, attorney fees. This section and the release hereunder, does not waive any claims under the ADEA that may arise *after* the date of your execution of this Agreement.

b) The parties understand the word "claims", to include all claims, including all employment discrimination claims, as defined above, whether actual or potential, known or unknown, and specifically but not exclusively all claims arising out of your employment with the Company and termination. All such claims (including related attorney's fees and costs) are forever barred by this Agreement and without regard to whether those claims are based on any alleged breach of duty arising in contract or tort or any alleged unlawful act, including, without limitation, age discrimination or any other claim or cause of action and regardless of the forum in which it might be brought.

c) Nothing in this Agreement shall prevent you (or your attorneys) from (i) commencing an action or proceeding to enforce this Agreement or (ii) exercising your right under the Older Workers Benefit Protection Act of 1990 to challenge the validity of your waiver of ADEA claims set forth in this Agreement.

d) Nothing in this Agreement shall be construed to prohibit you from filing any charge or complaint with the EEOC or State Counterpart Agency or participating in any investigation or proceeding conducted by the EEOC or State Counterpart Agency, nor shall any provision of this Agreement adversely affect your right to engage in such conduct. Notwithstanding the foregoing you waive the right to obtain any monetary relief from the EEOC or State Counterpart Agency or recover any monies or compensation as a result of filing any such charge or complaint.

e) FOR CALIFORNIA ADD: It is a further condition of the consideration hereof and your agreement that in executing this Agreement that it should be effective as a bar to each and every claim, demand and cause of action stated above. In furtherance of this intention, you hereby expressly waive any and all rights and benefits conferred upon you by the provisions of Section §1542 of the California Civil Code and expressly consent that this Agreement shall be given full force and effect according to each and all of its express terms and provisions, including those relating to unknown and unsuspected claims, demands and causes of action, if any, as well as those relating to any other claims, demands, and causes of action referred to above. Under Section §1542 of the California Code, a general release does not extend to claims which the creditor (employee) does not know or suspect to exist in his favor at the time of executing the Release, which if known by him must have materially affected his settlement with the debtor (Company).

5. You represent, warrant and acknowledge that the Company has paid you for all hours worked. You represent, warrant and acknowledge that the Company owes you no vacation pay other than your accrued, unused vacation attributable to the year in which your last day of active employment occurs, which will be paid in a lump sum based on your base salary at termination.

6. You also hereby acknowledge and agree that you have received any and all leave(s) of absence to which you may have been entitled pursuant to the federal Family and Medical Leave Act of 1993, and if any such leave was taken, you were not discriminated against or retaliated against regarding same. Except as may be expressly stated herein, any rights to benefits under Company sponsored benefit plans are governed exclusively by the written plan documents.

7. This release of Claims does not affect any pending claim for workers’ compensation benefits. You affirm that you have no known and unreported work related injuries or occupational diseases as of the date of this Agreement.

8. You acknowledge that you have no pending, contemplated or submitted disability claims. You acknowledge that you are aware of no facts that would give rise to a disability claim. You acknowledge that any disability payments for time periods covering the Termination Date forward would be withheld as an offset to the severance amounts provided above. Alternatively, if you obtain disability payments for the Termination Date forward, then the severance described above would be reduced. The Company has a right to reimbursement to the extent you obtain both disability payments for time periods after the Termination Date and Severance.

9. If you accept another position with the Company prior to the Termination Date, the severance benefits described in Paragraph 2(a) of this Agreement will be withdrawn. Alternatively, if you have already received the severance benefits described in Paragraph 2(a) of this Agreement at the time you accept a position with the Company, you will only be entitled to retain the portion to the lump sum payment representing the number of weeks you were not employed by the Company. You will be required to repay to the Company the portion of the lump sum payment representing the number of weeks after which you became re-employed by the Company.

10. a) You agree that you will personally provide reasonable assistance and cooperation to the Company in activities related to the prosecution or defense of any pending or future lawsuits or claims involving the Company especially on matters you have been privy to, holding all privileged attorney-client matters in strictest confidence.

    b) You will promptly notify the Company if you receive any requests from anyone for information regarding the Company or if you become aware of any potential claims or proposed litigation against the Company.

    c) You shall immediately notify the Company if you are served with a subpoena, order, directive or other legal process requiring you to provide sworn testimony regarding a Company-related matter.

11. If the Company reasonably determines that you have violated any of your obligations under this Agreement, you agree to:

    a) Forfeit any right to receive the payments described in paragraph 2 above,

    b) Forfeit all rights to all outstanding stock options, vested or not, that were previously awarded, and

    c) Upon demand, return all payments set forth in this Agreement that have been made to you. If you fail to do so, the Company has the right to recover costs and attorney's fees associated with such recovery.

    The Company may further, where appropriate, seek injunctive relief to cause compliance with paragraph 3.

12. This Agreement sets forth the entire agreement between you and the Company and fully supersedes any and all prior agreements or understandings, written or oral, between you and the Company pertaining to the subject matter hereof.

13. This Agreement shall be interpreted in accordance with the plain meaning of its terms and not strictly for or against any of the parties hereto.

14. This Agreement is governed by the laws of the State in which the employee worked at the time of the employee's termination without regard to its choice of law provisions, to the extent not governed by federal law.

15. Should any provision of this Agreement be declared or be determined by any court of competent jurisdiction to be wholly or partially illegal, invalid, or unenforceable, the legality, validity, and enforceability of the remaining parts, terms, or provisions shall not be affected thereby, and said illegal, invalid or unenforceable part, term, or provision shall be deemed not to be a part of this Agreement.

16. You understand and agree that:

    a) You are signing this Agreement voluntarily and with full knowledge and understanding of its terms, which include a waiver of all rights or claims you have or may have against the Company as set forth herein including, but not limited to, all claims of age discrimination and all claims of retaliation;

b) You are, through this Agreement, releasing, among others, the Company, its affiliates and subsidiaries, each and all of their officers, agents, directors, supervisors, employees, representatives, and their successors and assigns, from any and all claims you may have against them;

c) You are not being asked or required to waive rights or claims that may arise *after* the date of your execution of this Agreement, including, without limitation, any rights or claims that you may have to secure enforcement of the terms and conditions of this Agreement;

d) The consideration provided to you under this Agreement is in addition to anything of value to which you are already entitled;

e) You knowingly and voluntarily agree to all of the terms set forth in this Agreement;

f) You knowingly and voluntarily intend to be legally bound by the same;

g) You were advised and hereby are advised in writing to consider the terms of the Agreement and consult with an attorney of your choice prior to executing this Agreement;

h) You have been provided with sufficient opportunity to consult with an attorney or have waived that opportunity;

i) You have a full [twenty-one (21)] [forty-five (45)] days from the date of receipt of this Agreement within which to consider this Agreement before executing it; and

j) You have the right to revoke this Agreement within seven consecutive calendar days ("Revocation Period") after signing and dating it, by providing written notice of revocation to Ingersoll-Rand plc, Attn. Corporate Secretary c/o Ingersoll-Rand Company, 800-E Beaty St., Davidson, NC 28036. If you revoke this Agreement during this Revocation Period, it becomes null and void in its entirety. If you do not revoke this Agreement, after the Revocation Period, it becomes final.

You may accept this Agreement at anytime *on or after* the Termination Date but not *before* the Termination Date. If you accept, please acknowledge your agreement to the terms set forth above by signing and dating below where indicated. You have a full [twenty-one (21)] [forty-five (45)] [1] days from the date of receipt, that is until [insert date], to consider, acknowledge and return this Agreement. This time period is required by the federal Age Discrimination in Employment Act ("ADEA"). After you return the Agreement, as further provided by the ADEA, there will then be a seven (7) day period within which you may revoke the Agreement. If you fail to accept this offer within the [twenty-one (21)] [forty-five (45)] [1] day period it will be revoked and no longer available. It is only after the seven (7) day period that the Agreement becomes effective and enforceable.

Sincerely,

MANAGER

CERTIFICATION

I certify that I have been advised of my rights to consult with an attorney prior to executing this Agreement; have been given at least [twenty-one (21)] [forty-five (45)] [1] days from date of receipt within which to consider this Agreement; and exercised my rights and opportunities, as I deemed appropriate. I knowingly and voluntarily have entered into this Agreement understanding its significance and my obligations.

____

EMPLOYEE Date

Exhibit 31.1

CERTIFICATION

I, Michael W. Lamach, certify that:

1. I have reviewed the Quarterly Report on Form 10-Q of Ingersoll-Rand plc for the three and six months ended June 30, 2019 ;
2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;
3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the registrant as of, and for, the periods presented in this report;
4. The registrant's other certifying officer and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) for the registrant and have:
   a. Designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;
   b. Designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles;
   c. Evaluated the effectiveness of the registrant's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and
   d. Disclosed in this report any change in the registrant's internal control over financial reporting that occurred during the registrant's most recent fiscal quarter (the registrant's fourth fiscal quarter in the case of an annual report) that has materially affected, or is reasonably likely to materially affect, the registrant's internal control over financial reporting; and
5. The registrant's other certifying officer and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the registrant's auditors and the audit committee of the registrant's board of directors (or persons performing the equivalent functions):
   a. All significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the registrant's ability to record, process, summarize and report financial information; and
   b. Any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant's internal control over financial reporting.

Date: August 5, 2019

/s/ MICHAEL W. LAMACH

Michael W. Lamach

Principal Executive Officer

Exhibit 31.2

CERTIFICATION

I, Susan K. Carter, certify that:

1. I have reviewed the Quarterly Report on Form 10-Q of Ingersoll-Rand plc for the three and six months ended June 30, 2019 ;
2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;
3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the registrant as of, and for, the periods presented in this report;
4. The registrant's other certifying officer and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) for the registrant and have:
    a. Designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;
    b. Designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles;
    c. Evaluated the effectiveness of the registrant's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and
    d. Disclosed in this report any change in the registrant's internal control over financial reporting that occurred during the registrant's most recent fiscal quarter (the registrant's fourth fiscal quarter in the case of an annual report) that has materially affected, or is reasonably likely to materially affect, the registrant's internal control over financial reporting; and
5. The registrant's other certifying officer and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the registrant's auditors and the audit committee of the registrant's board of directors (or persons performing the equivalent functions):
    a. All significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the registrant's ability to record, process, summarize and report financial information; and
    b. Any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant's internal control over financial reporting.

Date: August 5, 2019

/s/ SUSAN K. CARTER

Susan K. Carter

Principal Financial Officer

Exhibit 32

Section 1350 Certifications
Pursuant to Section 906 of the Sarbanes-Oxley Act of 2002
(Subsections (a) and (b) of Section 1350, Chapter 63 of Title 18, United States Code)

Pursuant to Section 906 of the Sarbanes-Oxley Act of 2002 (Subsections (a) and (b) of Section 1350, Chapter 63 of Title 18, United States Code), each of the undersigned officers of Ingersoll-Rand plc (the Company), does hereby certify that to our knowledge:

The Quarterly Report on Form 10-Q for the three and six months ended June 30, 2019 (the Form 10-Q) of the Company fully complies with the requirements of Section 13(a) or 15(d) of the Securities Exchange Act of 1934 and information contained in the Form 10-Q fairly presents, in all material respects, the financial condition and results of operations of the Company.

/s/ MICHAEL W. LAMACH

Michael W. Lamach
Principal Executive Officer
August 5, 2019

/s/ SUSAN K. CARTER

Susan K. Carter
Principal Financial Officer
August 5, 2019