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

FORM 10-K

ANNUAL REPORT PURSUANT TO SECTION 13 OR 15(d)
OF THE SECURITIES EXCHANGE ACT OF 1934
For fiscal year ended December 31, 2018

Commission File Number: 1-4018

Dover Corporation

(Exact name of registrant as specified in its charter)

Delaware	**53-0257888**
(State or other jurisdiction of incorporation or organization)	*(I.R.S. Employer Identification No.)*

3005 Highland Parkway
Downers Grove, Illinois 60515
(Address of principal executive offices)

Registrant's telephone number: (630) 541-1540

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

Title of Each Class	Name of Each Exchange on Which Registered
Common Stock, par value $1	New York Stock Exchange
2.125% Notes due 2020	New York Stock Exchange
1.250% Notes due 2026	New York Stock Exchange

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

None

Indicate by check mark if the registrant is a well-known seasoned issuer, as defined in Rule 405 of the Securities Act. Yes ☑ No o

Indicate by check mark if the registrant is not required to file reports pursuant to Section 13 or 15(d) of the Act. Yes o No ☑

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 o

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 o

Indicate by check mark if disclosure of delinquent filers pursuant to Item 405 of Regulation S-K (§ 229.405 of this chapter) is not contained herein, and will not be contained, to the best of registrant's knowledge, in definitive proxy or information statements incorporated by reference in Part III of this Form 10-K or any amendment to this Form 10-K. ☑

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

Large accelerated filer ☑	Accelerated filer o	Non-accelerated filer o	Smaller reporting company o Emerging growth company o

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 o

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

The aggregate market value of the voting and non-voting common stock held by non-affiliates of the registrant as of the close of business on June 30, 2018 was $10,776,562,926. The registrant's closing price as reported on the New York Stock Exchange-Composite Transactions for June 30, 2018 was $73.20 per share. The number of outstanding shares of the registrant's common stock as of February 1, 2019 was 144,940,620.

Documents Incorporated by Reference: Part III — Certain Portions of the Proxy Statement for Annual Meeting of Shareholders to be held on May 2, 2019 (the "2019 Proxy Statement").

Special Note Regarding Forward-Looking Statements

This Annual Report on Form 10-K, especially "Management's Discussion and Analysis of Financial Condition and Results of Operations," contains "forward-looking" statements within the meaning of the Private Securities Litigation Reform Act of 1995, as amended. All statements in this document other than statements of historical fact are statements that are, or could be deemed, “forward-looking” statements. Some of these statements may be indicated by words such as “may”, “anticipate”, “expect”, believe”, “intend”, “guidance”, “estimates”, “suggest”, “will”, “plan”, “should”, “would”, “could”, “forecast” and other words and terms that use the future tense or have a similar meaning. Forward-looking statements are based on current expectations and are subject to numerous important risks, uncertainties, assumptions and other factors, some of which are beyond the Company's control. Factors that could cause actual results to differ materially from current expectations include, among other things, general economic conditions and conditions in the particular markets in which we operate, changes in customer demand and capital spending, competitive factors and pricing pressures, our ability to develop and launch new products in a cost-effective manner, changes in law, including the effect of U.S. tax reform and developments with respect to trade policy and tariffs, our ability to identify and complete acquisitions and integrate and realize synergies from newly acquired businesses, the impact of interest rate and currency exchange rate fluctuations, capital allocation plans and changes in those plans, including with respect to dividends, share repurchases, investments in research and development, capital expenditures and acquisitions, whether the strategic benefits of the Apergy separation can be achieved, our ability to derive expected benefits from restructuring, productivity initiatives and other cost reduction actions, changes in material costs or the supply of input materials, the impact of legal compliance risks and litigation, including with respect to product quality and safety, cybersecurity and privacy, and our ability to capture and protect intellectual property rights. Certain of these risks and uncertainties are described in more detail in Item 1A. "Risk Factors" of this Annual Report on Form 10-K. The Company undertakes no obligation to publicly update any forward-looking statement, whether as a result of new information, future events or otherwise.

In this Annual Report on Form 10-K, we refer to measures used by management to evaluate performance, including a number of financial measures that are not defined under accounting principles generally accepted in the United States of America ("GAAP"). We include reconciliations to provide more details on the use and derivation of these financial measures. Please see "Non-GAAP Disclosures" at the end of Item 7 for further detail.

TABLE OF CONTENTS

PART I

ITEM 1. BUSINESS

Overview

Dover Corporation is a diversified global manufacturer delivering innovative equipment and components, specialty systems, consumable supplies, software and digital solutions and support services through three operating segments: Engineered Systems, Fluids, and Refrigeration & Food Equipment. The Company's entrepreneurial business model encourages, promotes and fosters deep customer engagement and collaboration, which has led to Dover's well-established and valued reputation for providing superior customer service and industry-leading product innovation. Unless the context indicates otherwise, references herein to "Dover," "the Company," and words such as "we," "us," or "our" include Dover Corporation and its consolidated subsidiaries. Dover was incorporated in 1947 in the State of Delaware and became a publicly traded company in 1955. Dover is headquartered in Downers Grove, Illinois and currently employs approximately 24,000 people worldwide.

Dover's three operating segments are structured around our key end markets and are designed to support focused growth strategies. Our segment structure also allows us to leverage Dover's scale and channel presence while capitalizing on productivity initiatives. Dover's three operating segments are as follows:

- Our Engineered Systems segment is comprised of two platforms, Printing & Identification and Industrials and is focused on the design, manufacture and service of critical equipment, consumables and components serving the fast-moving consumer goods, digital textile printing, vehicle service, environmental solutions and industrial end markets.

- Our Fluids segment, serving the Fueling & Transport, Pumps, and Process Solutions end markets, is focused on the safe handling of critical fluids across the retail fueling, chemical, hygienic, oil and gas and industrial end markets.

- Our Refrigeration & Food Equipment segment is a provider of innovative and energy efficient equipment and systems serving the commercial refrigeration and food equipment end markets.

Spin-off of Energy Businesses

On May 9, 2018, we completed the spin-off of Apergy Corporation ("Apergy") to our shareholders. Apergy holds the entities conducting our former upstream energy businesses previously included in our Energy segment. The transaction was completed through the pro rata distribution of 100% of the common stock of Apergy to Dover's shareholders of record as of the close of business on April 30, 2018. Each Dover shareholder received one share of Apergy common stock for every two shares of Dover common stock held as of the record date. For more details, see Note 2 — Spin-off of Apergy Corporation in the Consolidated Financial Statements in Item 8 of this Form 10-K.

Management Philosophy

Dover is committed to generating shareholder value through a combination of sustained long-term profitable growth, operational excellence and superior free cash-flow generation. We foster an operating culture with high ethical standards that values accountability, rigor, trust, respect and open communications, designed to allow individual growth and operational effectiveness. Dover seeks to be a leader in our end markets as measured by market share, customer satisfaction, growth, and return on invested capital. Our operating structure of three business segments allows for focused acquisition activity, accelerates opportunities to identify and capture operating synergies, including global sourcing and supply chain integration, shared services, and manufacturing, and advances the development of our executive talent. Our segment and executive management teams set strategic direction, initiatives and goals, provide oversight of strategy execution and achievement of these goals for our operating companies, and with oversight from our Board of Directors, make capital allocation decisions, including organic investment initiatives, major capital projects, acquisitions and the return of capital to our shareholders.

We are also committed to creating sustainable business practices that protect the environment, and through the development of products that help our customers meet their sustainability goals. We have accelerated our efforts and processes around innovation, focusing on technologies which create tangible value for our customers. Each of Dover’s segments is dedicated to this important initiative. In our Refrigeration & Food Equipment segment, SWEP, a manufacturer of brazed plate heat exchangers, focuses on the conversion to sustainable and renewable energy usage in heat transfer. Their Passive Cooling

Unit, for example, uses natural cooling from the ground or groundwater to remove excess heat from interiors with the process requiring only a small amount of electricity for the circulation pumps which make this solution both very energy efficient and cost effective. Over the last 7 years, Markem-Imaje, a marking and coding business within Dover's Engineered Systems segment, has reduced its carbon emissions by 40% and produced 18% less waste by implementing an Environmental, Health and Safety program. Lastly, in Dover's Fluids segment, OPW, a leader in fluid handling and car wash equipment, released the 14 Series fueling nozzle family that features patented and patent-pending technology to prevent dripping of excess fuel while motorists refuel their vehicles.

Company Goals

We are committed to driving shareholder returns through three key objectives. First, we are committed to achieving organic sales growth above that of gross domestic product (or 3% to 5% annually on average) over a long-term business cycle, absent prolonged adverse economic conditions, complemented by growth through strategic acquisitions. Second, we continue to focus on improving returns on capital and segment margins through effective cost management and productivity initiatives, including supply chain activities, targeted, thoughtful restructuring activities, strategic pricing and portfolio management. Third, we aim to generate free cash flow as a percentage of sales of approximately 8-12% through strong earnings performance, productivity improvements and active working capital management. Dover's value-creation strategy is supported by a financial policy that includes a prudent approach to financial leverage, and a disciplined approach to capital allocation that allows for a balance between reinvestment and return of capital to shareholders. We support achievement of these goals by (1) aligning management compensation with financial objectives, (2) executing on well-defined and actively managed merger and acquisition processes and (3) investing in talent development programs.

Business Strategy

To achieve our goals, we are focused on executing the following three pillars of Dover's business strategy:

Capturing growth potential in our key end markets and adjacencies

Dover's three business segments focus on building enduring competitive advantages and leadership positions in end markets that are positioned for future growth. We believe that our businesses are among the top suppliers in most markets and niches that we serve (as defined by customer applications, geographies or products), which positions us well to capture future growth in such markets. We capitalize on our engineering, technology and design expertise and maintain an intense focus on meeting the needs of our customers and adding significant value to their operations through superior product performance, safety and reliability and a commitment to after sales and service support. We cultivate and maintain an entrepreneurial culture and continuously innovate to address our customers' needs to help them win in the markets they serve.

In particular, our businesses are well-positioned to capitalize on growing industrial manufacturing and trade volumes, continuous productivity improvement, adoption of digital technologies and the Industrial Internet of Things (IIoT), sustainability and safety, energy efficiency, consumer product safety and growth of the middle class and consumption in emerging economies. Our Engineered Systems segment combines its engineering capabilities, unique product advantages and niche applications expertise to address market needs and requirements including conversion to digital textile printing, productivity solutions, sustainability, consumer product safety and growth in emerging economies. Our Fluids segment is focused on accelerating growth within the chemical/plastics, retail fueling, fluid transfer, industrial and hygienic markets as well as globalizing brands across geographies while expanding sales channels and engineering support. Specifically, we focus on capturing growth in the retail fueling, hygienic and pharma and polymers/plastics markets. Our Refrigeration & Food Equipment segment is responding to our customers' demand for increased energy efficiency and sustainability and unique merchandising solutions with innovative new products.

We aim to grow by making organic investments in research and development, developing new products and technologies, expanding our geographic coverage, as well as by pursuing disciplined strategic acquisitions that enhance our portfolio and position Dover for long-term growth. We continually evaluate how our assets and capabilities can position Dover to grow in markets adjacent to our core businesses (for example, new applications, geographies, product segments or adjacent technologies) where Dover can be advantaged.

Improving profitability and return on invested capital

We are committed to generating sustainable returns on invested capital well above the cost of capital across all of our businesses. We continually evaluate and pursue opportunities to improve efficiency, margin and return on capital. We are intensely focused on driving operational excellence and capturing the benefits of common ownership across our businesses. We have implemented numerous productivity initiatives, such as supply chain integration management, shared service centers and lean manufacturing principles, to maximize our efficiency as well as workplace safety initiatives to help ensure the health and welfare of our employees. Our businesses place strong emphasis on continual product quality improvement and new product development to better serve customers and to facilitate expansion into new product and geographic markets. Further, we continue to make significant investments in talent development, especially in the area of operational management, and recognize that the growth and development of our employees is essential for our continued success.

In 2018, we launched a margin expansion program, designed to reduce our selling, general and administrative cost base and rationalize our manufacturing and supply chain footprint across the portfolio. In prior years, we have invested in our global supply chain organization to capitalize on Dover's scale in procurement, and in Dover Business Services shared service centers to provide important transactional and value-added services to our operating companies in the areas of finance, information technology and human resources. Our shared service model allows us to leverage scale across Dover, increase process efficiencies through technology and specialization and reduce risk through centralized controls. Our shared service centers serve our operating companies by freeing resources normally dedicated to transactional services to allow those resources to focus on customers, markets and product excellence.

Additionally, we focus on improving margins and returns by rigorously capturing synergies from our acquisitions and providing best-in-class corporate support and services through a lean corporate center.

Disciplined capital allocation

Our businesses generate annual free cash flow of approximately 8-12% of revenue. We are focused on the most efficient allocation of our capital to maximize returns on investment. To do this, we prioritize organic reinvestment to grow and strengthen our existing businesses. We plan to make average annual investments in capital spending of approximately 2% - 4% of revenue with a focus on internal projects designed to expand markets, develop products and improve productivity. We also seek to deploy capital in disciplined acquisitions in our key end markets which include industrials, printing & identification, pumps, hygienic & pharma, fueling & transport, and process solutions markets. Dover focuses primarily on bolt-on acquisitions, applying strict selection criteria of market attractiveness (including growth, maturity, performance-based competition), business fit (including sustained leading position, revenue visibility, favorable customer value-add versus switching cost or risk) and financial return profile (accretive growth and margins, double-digit return on capital). Finally, we have consistently returned cash to shareholders by paying dividends, which have increased annually over each of the last 63 years. We also undertake opportunistic share repurchases as part of our capital allocation strategy, and completed $1 billion of share repurchases in 2018. We employ a prudent financial policy to support our capital allocation strategy, which includes maintaining an investment grade credit rating.

Portfolio Development

Acquisitions

Our acquisition program has two key elements. As a first priority, we seek to acquire attractive add-on businesses with a strong fit that enhance our existing franchises either by increasing their reach and customer access, by broadening their product mix or by enhancing technological capability and customer value-add. Second, in the right circumstances, we may strategically pursue larger, stand-alone businesses that have the potential to either complement our existing businesses or allow us to pursue innovative technologies within our key growth spaces. With all our acquisitions, we seek businesses that have an accretive margin and a strong organic growth profile, offer significant synergy opportunities and the potential to generate double-digit return on capital 3-5 years after the acquisition is completed.

Over the past three years (2016 through 2018), we have spent approximately $1.7 billion to purchase 10 businesses. During 2018, we acquired two businesses for an aggregate consideration of $68.6 million, net of cash acquired. Consistent with our acquisition program, we acquired these businesses to complement and expand upon existing operations within the Process Solutions and Food Equipment end markets. During 2017, we acquired two businesses for an aggregate consideration of $32.9 million, net of cash acquired and including contingent consideration. We acquired these businesses to complement and expand upon existing operations within the Printing and Identification platform. During 2016, we acquired six businesses for an aggregate purchase price of $1.6 billion, net of cash acquired. Four of these businesses– Tokheim Group S.A.S., Fairbanks Environmental LTD, ProGauge and Wayne Fueling Systems Ltd. expanded our Fluids segment's retail fueling portfolio and two of these businesses – Alliance Wireless Technologies, Inc. and Ravaglioli S.p.A. Group complemented the Industrials platform within our Engineered Systems segment. For more details regarding acquisitions completed over the past three years, see Note 4 — Acquisitions in the Consolidated Financial Statements in Item 8 of this Form 10-K.

Our future growth depends in large part on finding and acquiring successful businesses that expand the scope of our offering and make us an even more important supplier to our customers. While we expect to generate annual organic growth of 3% - 5% over a long-term business cycle absent extraordinary adverse economic conditions, our success in consistently growing the portfolio is also dependent on the ability to acquire and integrate businesses successfully within our existing structure. To track post-merger integration and accountability, we utilize an internal scorecard and defined processes to help ensure expected synergies are realized and value is created.

Dispositions

Occasionally, we may also sell or divest some of our businesses based on changes in specific market outlook, structural changes in financial performance, value-creation potential, or for other strategic considerations, which may include an effort to reduce our exposure to cyclical markets or focus on our higher margin growth spaces. We also recognize that some smaller niche businesses in Dover's portfolio may have a greater value-creation potential if owned by another parent with a larger presence and focus on a given niche. We pragmatically consider such opportunities as part of our ongoing portfolio management and review processes and execute divestitures if the value created is determined to be at an appropriate premium to the value of such business to Dover and allows Dover shareholders to participate in the future value-creation potential from a change in ownership.

During the past three years (2016 through 2018) we have sold businesses for aggregate cash consideration of $583.0 million. During 2018, there were no other material dispositions aside from the spin-off of Apergy as previously discussed. The financial position and results of operations for Apergy have been presented as discontinued operations for all periods presented. During 2017, we completed the sale of Performance Motorsports International and the consumer and industrial winch business of Warn Industries, within the Engineered Systems segment, as well as other smaller divestitures. During 2016, we completed the sale of Texas Hydraulics and Tipper Tie, within the Engineered Systems and Refrigeration & Food Equipment segments, respectively. The disposal in 2017 and 2016 did not represent strategic shifts in operations and, therefore, did not qualify for presentation as discontinued operations. For more details, see Note 5 — Discontinued and Disposed Operations in the Consolidated Financial Statements in Item 8 of this Form 10-K.

Business Segments

As noted previously, we currently operate through three business segments that are aligned with the key end markets they serve and comprise our operating and reportable segments: Engineered Systems, Fluids, and Refrigeration & Food Equipment. For financial information about our segments and geographic areas, see Note 18 — Segment Information in the Consolidated Financial Statements in Item 8 of this Form 10-K.

Engineered Systems

Our Engineered Systems segment is focused on the design, manufacture and service of critical equipment, consumables and components across its two platforms, the Printing & Identification and Industrials, as described below.

- *Printing & Identification* – Our Printing & Identification businesses are worldwide suppliers of precision marking and coding, digital textile printing, soldering and dispensing equipment and related consumables and services. Our Printing & Identification platform primarily designs and manufactures equipment and consumables used for printing variable information (such as bar coding of dates and serial numbers) on fast-moving consumer goods, capitalizing on expanding food and product safety requirements and growth in emerging markets. In addition, our businesses serving the textile market are benefiting from a significant shift from analog to digital printing, resulting from shorter runs and more complex fashion designs, as well as increasing environmental standards.

- *Industrials* – Our Industrials businesses provide a wide range of products and services which have broad customer applications across a number of markets including; vehicle service, environmental solutions, industrial automation, defense and telecommunications, and winch and hoist.

  Our businesses serving the global vehicle service market provide products and services used primarily in vehicle repair and maintenance, including light and heavy-duty vehicle lifts, wheel service equipment, vehicle diagnostics and vehicle collision repair solutions. Products are sold to national dealership networks, original equipment manufacturers ("OEM"), national multi-shop operators ("MSO") groups, independent repair and service shops, and large national accounts and government/transit customers through a network of distributors and channel partners.

  Our businesses serving the environmental solutions markets provide products and digital services for the refuse collection industry and for on-site processing and compaction of trash and recyclable materials. Products are sold to municipal customers, national accounts and independent waste haulers through a network of distributors and directly in certain geographic areas.

  The businesses in the industrial automation market provide a wide range of modular automation components including manual clamps, power clamps, rotary and linear mechanical indexers, conveyors, pick and place units, glove ports and manipulators, as well as end-of-arm robotic grippers, slides and end effectors. These products serve a very broad market including food processing, packaging, paper processing, medical, electronic, automotive, nuclear and general industrial products.

Engineered Systems' products are manufactured primarily in the United States, Europe and Asia and are sold throughout the world directly and through a network of distributors.

Fluids
Our Fluids segment is focused on the safe handling of critical fluids across the retail fueling, chemical, hygienic, oil and gas and industrial end markets. We strive to optimize safety, efficiency, reliability, and environmental sustainability through innovative fluid handling and information management solutions. The segment serves three broad global end markets: Fueling & Transport, Pumps, and Process Solutions.

- *Fueling & Transport* – Our businesses provide fully integrated fluid handling solutions from refineries and chemical-processing plants through point-to-point transfers, transportation, and delivery to the final point of consumption. Within this framework, we have a very strong presence in the retail and commercial fueling markets, where we provide fuel dispensers, payment systems, hanging hardware and underground containment systems, as well as monitoring and optimization software.

- *Pumps* – Our businesses manufacture pumps that are used to transfer liquid and bulk products and are sold to a wide variety of markets, including the refined fuels, liquefied petroleum gas ("LPG"), food/sanitary, transportation and chemical process industries. The pumps include positive displacement and centrifugal pumps that are used in demanding and specialized fluid transfer process applications. Within this framework, we also have a focus on pumps and connectors for use in a variety of bio-processing, medical and specialty applications.

- *Process Solutions* – Our businesses specialize in the manufacturing of pumps, filtration systems, pelletizing equipment, compressors and bearings for use in the chemical, polymer, power generation, oil and gas, industrial, and marine industries. These highly engineered products provide unique and proprietary solutions to solve customer needs around the world.

Fluids' products are manufactured primarily in the United States, Europe, China, Mexico and Brazil and are sold throughout the world directly and through a network of distributors and OEMs.

Refrigeration & Food Equipment

Our Refrigeration & Food Equipment segment is a provider of innovative and energy-efficient equipment and systems serving the commercial refrigeration and food equipment end markets.

- *Refrigeration* – Our businesses manufacture refrigeration systems, refrigeration display cases, specialty glass, commercial glass refrigerator and freezer doors and brazed plate heat exchangers used for industrial and climate control.

- *Food Equipment* – Our businesses manufacture electrical distribution products and engineering services, commercial food service equipment, continuous motion wash systems, cook-chill production systems, custom food storage and preparation products, kitchen ventilation systems, conveyer systems and beverage can-making machinery.

The majority of the refrigeration/food systems and machinery that are manufactured or serviced by the Refrigeration & Food Equipment segment are used by the retail food industry, including supermarkets, “big-box” retail and convenience stores, the commercial/industrial refrigeration industry, institutional and commercial food service and food production markets and beverage can-making industries. Refrigeration & Food Equipment's products are manufactured primarily in North America, Europe and Asia and are sold globally, directly and through a network of distributors.

Raw Materials

We use a wide variety of raw materials, primarily metals and semi-processed or finished components, which are generally available from a number of sources. As a result, shortages or the loss of any single supplier have not had, and are not likely to have, a material impact on operating profits. While the required raw materials are generally available, commodity pricing can be volatile, particularly for various grades of steel, copper, aluminum and select other commodities. Although cost increases in commodities may be recovered through increased prices to customers, our operating results are exposed to such fluctuations. We attempt to control such costs through fixed-price contracts with suppliers and various other programs, such as our global supply chain activities.

Research and Development

Our businesses invest to develop innovative products, as well as to upgrade and improve existing products to satisfy customer needs, including demand for energy-efficient products designed to help customers meet sustainability goals, expand revenue opportunities domestically and internationally, maintain or extend competitive advantages, improve product reliability and reduce production costs.

Our Engineered Systems segment expends significant effort in research and development because the rate of product development by their customers is often quite high. Our businesses that develop product identification and printing equipment believe that their customers expect a continuing rate of product innovation, and performance and total cost of ownership improvement. The result has been that product life cycles in these markets generally average less than five years with meaningful sales price reductions over that time period.

Our other segments contain many businesses that are also involved in important product improvement initiatives. These businesses concentrate on working closely with customers on specific applications, expanding product lines and market applications and continuously improving manufacturing processes. Most of these businesses experience a much more moderate rate of change in their markets and products than is generally experienced by the Engineered Systems segment.

In addition to product innovation, we are also investing in developing digital technologies. In 2018, we opened our new digital labs center in the greater Boston area. The facility serves as the hub for our digital strategy and platform, and as a research and development center for our Markem-Imaje business unit which is part of our Engineered Systems segment. We believe that the digital labs center will enhance the effectiveness of our products and fuel our commercial growth strategy by helping us make progress on digitization opportunities and by providing machine learning, artificial intelligence, IoT and digital commerce capabilities. Our businesses pursue digital strategies based on customer needs and will now be able to leverage cross-company capabilities developed at the digital labs center. For example, with the support of the digital labs center, Hydro, which manufacturers chemical injecting, proportioning, dispensing and medicating equipment within our Fluids segment, launched Hydro Connect in 2018. Hydro Connect is a cloud-based IIoT platform that gives end users increased visibility into their operations, optimizes production, reduces costs and increases customer satisfaction. Building on this momentum, we launched a digital initiative in 2018 to help our businesses increase sales and further improve customer satisfaction through digital technology, starting with Dover Food Retail within our Refrigeration & Food Equipment segment.

Intellectual Property and Intangible Assets

Our businesses own many patents, trademarks, licenses and other forms of intellectual property, which have been acquired over a number of years and, to the extent relevant, expire at various times over a number of years. A large portion of our businesses' intellectual property consists of patents, unpatented technology and proprietary information constituting trade secrets that we seek to protect in various ways, including confidentiality agreements with employees and suppliers where appropriate. In addition, a significant portion of our intangible assets relate to customer relationships. While our intellectual property and customer relationships are important to our success, the loss or expiration of any of these rights or relationships, or any group of related rights or relationships, is not likely to materially affect our results on a consolidated basis. We believe that our commitment to continuous engineering improvements, new product development and improved manufacturing techniques, as well as strong sales, marketing and service efforts, are significant to our general leadership positions in the niche markets we serve.

Customers

We serve thousands of customers, none of which accounted for more than 10% of our consolidated revenue in 2018. Given our diversity of served markets, customer concentrations are not significant. Businesses supplying the environmental solutions, agricultural, defense, energy, automotive and commercial refrigeration industries tend to deal with a few large customers that are significant within those industries. This also tends to be true for businesses supplying the power generation and chemical industries. In the other markets served, there is usually a much lower concentration of customers, particularly where our companies provide a substantial number of products and services applicable to a broad range of end-use applications.

Seasonality

In general, our businesses, while not strongly seasonal, tend to have stronger revenue in the second and third quarters, particularly those serving the transportation, construction, environmental solutions, commercial refrigeration and food service markets. Our businesses serving the retail fueling market tend to increase sequentially through the year based on the historical purchasing patterns of their customers. Our businesses serving the major equipment markets, such as power generation, chemical and processing industries, have longer lead times geared to seasonal, commercial, or consumer demands and customers in these markets tend to delay or accelerate product ordering and delivery to coincide with those market trends that tend to moderate the aforementioned seasonality patterns.

Backlog

Backlog is more relevant to our businesses that produce larger and more sophisticated machines or have long-term contracts, primarily for the markets within our Fluids and Refrigeration & Food Equipment segments. Our total backlog relating to our businesses as of December 31, 2018 and 2017 was $1.4 billion and $1.2 billion, respectively.

Competition

Our competitive environment is complex because of the wide diversity of our products manufactured and the markets served. In general, most of our businesses are market leaders that compete with only a few companies, and the key competitive factors are customer service, product quality, price and innovation. However, as we become increasingly global, we are exposed to more competition. A summary of our key competitors by end market within each of our segments follows:

Segment	End Market	Key Competitors
Engineered Systems	Printing & Identification	Danaher Corp. (Videojet), Brother Industries, Ltd. (Domino Printing), Electronics for Imaging, Konica Minolta
	Industrials	Oshkosh Corp. (McNeilus), Tünkers Maschinenbau GmbH, Snap-On Inc. (Challenger Lifts), Labrie Enviroquip Group, PACCAR (Braden), Fortive (Hennessey Industries, Inc.) and numerous others
Fluids	Fueling & Transport	Fortive (Gilbarco Veeder-Root), Tatsuno, Verifone, Franklin Electric, Elaflex, Gardner Denver, Inc. (Emco Wheaton), Dixon Valve & Coupling Company, Salco, Washtec AG
	Pumps	IDEX Corporation (Viking), Ingersoll Rand, ITT, SPX Flow Inc. (Waukesha), Accudyne Industries (Milton Roy), Nordson Corporation, Kingsbury, Seko, Ecolab, Dosatron, Millipore, Danaher Corporation (Pall)
	Process Solutions	Kingsbury, EnPro Industries (Compressor Products International, Garlock), Hoerbiger Holdings AG, Miba AG, Hillenbrand Inc. (Coperion), Nordson Corporation
Refrigeration & Food Equipment	Refrigeration	Panasonic (Hussman Corp.), Lennox International (Kysor/Warren), Alfa Laval
	Food Equipment	Welbilt Corp, Illinois Tool Works, Middleby

International

Consistent with our strategic focus on positioning our businesses for growth, we continue to increase our revenue in international markets, particularly in developing economies in Asia, the Middle East, Eastern Europe and South America.

Most of our non-U.S. subsidiaries and affiliates are currently based in France, Germany, the Netherlands, Sweden, Switzerland, the United Kingdom, and other locations including Australia, Canada, China, Malaysia, India, Mexico, Brazil, Eastern Europe and the Middle East.

The following table shows annual revenue derived from customers outside the U.S. as a percentage of total annual revenue for each of the last three years, by segment and in total:

	% Non-U.S. Revenue by Segment		
	Years Ended December 31,		
	2018	2017	2016
Engineered Systems	50 %	49 %	46 %
Fluids	53 %	52 %	53 %
Refrigeration & Food Equipment	38 %	34 %	32 %
Total percentage of revenue derived from customers outside of the United States	48 %	46 %	45 %

Our international operations are subject to certain risks, such as price and exchange rate fluctuations and non-U.S. governmental restrictions, which are discussed further in Item 1A. "Risk Factors." For additional details regarding our non-U.S. revenue and the geographic allocation of the assets of our continuing operations, see Note 18 — Segment Information to the Consolidated Financial Statements in Item 8 of this Form 10-K.

Environmental Matters

Sustainability

We are committed to creating economic value for shareholders by developing products designed to help our customers meet their sustainability goals in response to evolving regulatory and environmental standards. We believe that sustainability-driven innovation presents a significant growth opportunity while contributing positively to enhanced resource efficiency and reduced waste. Accordingly, over the past several years, we have accelerated our efforts and processes around innovation, focusing on technologies that create tangible value for our customers. Each of Dover's segments is dedicated to this initiative. For example, in our Refrigeration & Food Equipment segment, SWEP, a manufacturer of brazed plate heat exchangers, has facilitated its customers' conversion to more sustainable and renewable energy usage through heat transfer technology. SWEP's Passive Cooling Unit uses natural cooling from the ground or groundwater to remove excess heat from interiors. The process requires only a small amount of electricity for circulation pumps which makes this solution both energy efficient and cost effective. Over the last seven years, Markem-Imaje, a marking and coding business within our Engineered Systems segment, has reduced its carbon emissions by 40% and produced 18% less waste by implementing an Environmental, Health and Safety program. Lastly, in our Fluids segment, OPW, a leader in fluid handling and car wash equipment, released the 14 Series fueling nozzle family that features patented and patent-pending technology to prevent dripping of excess fuel while motorists refuel their vehicles.

We are also committed to fostering sustainable business practices across our businesses in order to reduce greenhouse gas emissions and energy consumption. In 2010, in response to our concerns around global sustainability, we developed and implemented a process to conduct an inventory of our greenhouse gas emissions. Since then, we have evaluated our climate change risks and opportunities, as well as developed an energy and climate change strategy that includes goals, objectives and related projects for reducing energy use and greenhouse gas emissions. To further promote our sustainability efforts, we have committed to reducing our overall energy and greenhouse gas intensity indexed to net revenue by 20% from 2010 to 2020. We are near our goal for reducing overall energy intensity and have surpassed our goal for reducing greenhouse gas intensity. We believe that our focus on sustainability results in enhanced efficiency in our operations, which reduces costs, improves margins and helps us achieve operational excellence. We will continue to work proactively to reduce energy usage and carbon emissions amidst acquisition and business growth. We have also participated as a voluntary respondent in the Carbon Disclosure Project since 2010 and have maintained our scoring range since we began reporting.

All of our segments assess the energy efficiencies related to their operations and the opportunities associated with the use of their products and services by customers. In some instances, our businesses may be able to help customers reduce energy use and greenhouse gas emissions. Increased demand for energy-efficient products based on a variety of drivers could result in increased sales for a number of our businesses.

Other Matters

Our operations are governed by a variety of international, national, state and local environmental laws. We are committed to continued compliance and believe our operations generally are in substantial compliance with these laws. In a few instances, particular plants and businesses have been the subject of administrative and legal proceedings with governmental agencies or private parties relating to the discharge or potential discharge of regulated substances. Where necessary, these matters have been addressed with specific consent orders to achieve compliance.

There have been no material effects upon our earnings and competitive position resulting from our compliance with laws or regulations enacted or adopted relating to the protection of the environment. We are aware of a number of existing or upcoming regulatory initiatives intended to reduce emissions in geographies where our manufacturing and warehouse/distribution facilities are located and have evaluated the potential impact of these regulations on our businesses. We anticipate that direct impacts from regulatory actions will not be significant in the short- to medium-term. We expect the regulatory impacts associated with climate change regulation would be primarily indirect and would result in "pass through" costs from energy suppliers, suppliers of raw materials and other services related to our operations.

Employees

We had approximately 24,000 employees as of December 31, 2018.

Other Information

We make available free of charge through the "Investor Information" link on our website, www.dovercorporation.com, our annual reports on Form 10-K, quarterly reports on Form 10-Q, current reports on Form 8-K and any amendments to these reports. We post each of these reports on the website as soon as reasonably practicable after the report is filed with the Securities and Exchange Commission. The information on our website is not incorporated into this Form 10-K.

ITEM 1A. RISK FACTORS

The risk factors discussed in this section should be considered together with information included elsewhere in this Form 10-K and should not be considered the only risks to which we are exposed. In general, we are subject to the same general risks and uncertainties that impact many other industrial companies such as general economic, industry and/or market conditions and growth rates; the impact of natural disasters and their effect on global markets; and changes in laws or accounting rules. Additional risks and uncertainties not currently known to us or that we currently believe are immaterial also may impair our business, including our results of operations, liquidity and financial condition.

- ***Our results may be impacted by current domestic and international economic conditions and uncertainties.***

  Our businesses may be adversely affected by disruptions in the financial markets or declines in economic activity both domestically and internationally in those countries in which we operate. These circumstances will also impact our suppliers and customers in various ways which could have an impact on our business operations, particularly if global credit markets are not operating efficiently and effectively to support industrial commerce.

  Negative changes in worldwide economic and capital market conditions are beyond our control, are highly unpredictable and can have an adverse effect on our consolidated results of operations, financial condition, cash flows and cost of capital.

- ***We are subject to risks relating to our existing international operations and expansion into new geographical markets.***

  Approximately 48% and 46% of our revenues for 2018 and 2017, respectively, were derived outside the United States. We continue to focus on global markets as part of our overall growth strategy and expect sales from outside the United States to continue to represent a significant portion of our revenues. Our international operations and our global expansion strategy are subject to general risks related to such operations, including:

  - political, social and economic instability and disruptions;
  - government export controls, economic sanctions, embargoes or trade restrictions;
  - the imposition of duties and tariffs and other trade barriers;
  - limitations on ownership and dividend of earnings;
  - transportation delays and interruptions;
  - labor unrest and current and changing regulatory environments;
  - increased compliance costs, including costs associated with disclosure requirements and related due diligence;
  - the impact of loss of a single-source manufacturing facility;
  - difficulties in staffing and managing multi-national operations;
  - limitations on our ability to enforce legal rights and remedies; and
  - access to or control of networks and confidential information due to local government controls and vulnerability of local networks to cyber risks.

  If we are unable to successfully manage the risks associated with expanding our global business or adequately manage operational risks of our existing international operations, the risks could have a material adverse effect on our growth in geographic markets, our reputation, our consolidated results of operations, financial position and cash flows.

- ***Our exposure to exchange rate fluctuations on cross-border transactions and the translation of local currency results into U.S. dollars could negatively impact our results of operations.***

  We conduct business through our subsidiaries in many different countries, and fluctuations in currency exchange rates could have a significant impact on our reported consolidated results of operations, financial condition and cash flows, which are presented in U.S. dollars. Cross-border transactions, both with external parties and intercompany relationships, result in increased exposure to foreign exchange effects. Accordingly, significant changes in currency exchange rates, particularly the Euro, Chinese Renminbi (Yuan), Swedish krona, Pound Sterling, Indian rupee, Singapore dollar, Danish krone, and Canadian dollar, could cause fluctuations in the reported results of our businesses' operations that could negatively affect our results of operations. Additionally, the strengthening of certain currencies such as the Euro and U.S. dollar potentially exposes us to competitive threats from lower cost producers in other countries. Our sales are translated into U.S. dollars for reporting purposes. The strengthening of the U.S. dollar could result in unfavorable translation effects as the results of foreign locations are translated into U.S. dollars.

- ***Increasing product/service and price competition by international and domestic competitors, including new entrants, and our inability to introduce new and competitive products could cause our businesses to generate lower revenue, operating profits and cash flows.***

  Our competitive environment is complex because of the wide diversity of the products that our businesses manufacture and the markets they serve. In general, most of our businesses compete with only a few companies. Our ability to compete effectively depends on how successfully we anticipate and respond to various competitive factors, including new products, digital solutions and support services that may be introduced by competitors, changes in customer preferences, new business models and technologies and pricing pressures. If our businesses are unable to anticipate their competitors' developments or identify customer needs and preferences on a timely basis, or successfully introduce new products, digital solutions and support services in response to such competitive factors, they could lose customers to competitors. If our businesses do not compete effectively, we may experience lower revenue, operating profits and cash flows.

- ***Our operating results depend in part on the timely development and commercialization, and customer acceptance, of new and enhanced products, digital solutions and support services based on technological innovation.***

  The success of new and improved products, digital solutions and support services depends on their initial and continued acceptance by our customers. Certain of our businesses sell in markets that are characterized by rapid technological changes, frequent new product introductions, changing industry standards and corresponding shifts in customer demand, which may result in unpredictable product transitions, shortened life cycles and increased importance of being first to market. Failure to correctly identify and predict customer needs and preferences, to deliver high quality, innovative and competitive products to the market, to adequately protect our intellectual property rights or to acquire rights to third-party technologies and to stimulate customer demand for, and convince customers to adopt, new products, digital solutions and support services could adversely affect our consolidated results of operations, financial condition and cash flows. In addition, we may experience difficulties or delays in the research, development, production or marketing of new products, digital solutions and support services which may prevent us from recouping or realizing a return on the investments required to continue to bring new products and services to market.

- ***New tariffs have resulted in increased prices and could adversely affect our consolidated results of operations, financial position and cash flows.***

  Recently, tariffs under Section 232 of the Trade Expansion Act of 1962 were imposed on certain steel and aluminum products imported into the U.S. which have increased the prices of these inputs. Increased prices for imported steel and aluminum products have led domestic sellers to respond with market-based increases to prices for such inputs as well. Tariffs under Section 301 of the Trade Expansion Act were also imposed on goods imported from China in connection with China's intellectual property practices which may increase the cost to our customers of our products manufactured in China as well as the cost of Chinese sourced parts and components for our products manufactured in the U.S. Additional tariffs have been announced that may be imposed on goods imported from China in the future. The new tariffs, along with any additional tariffs or trade restrictions that may be implemented by the U.S. or other countries, could result in further increased prices and a decreased available supply of steel and aluminum as well as additional imported components and inputs. We may not be able to pass price increases on to our customers and may not be able to secure adequate alternative sources of steel and aluminum on a timely basis. While retaliatory tariffs imposed by other countries on U.S. goods have not yet had a significant impact, we cannot predict further developments. The tariffs could adversely affect the operating profits for certain of our businesses and customer demand for certain of our products which could have a material adverse effect on our consolidated results of operations, financial position and cash flows.

- ***Our businesses and their profitability and reputation could be adversely affected by domestic and foreign governmental and public policy changes, risks associated with emerging markets, changes in statutory tax rates and unanticipated outcomes with respect to tax audits.***

  Our businesses' domestic and international sales and operations are subject to risks associated with changes in laws, regulations and policies (including environmental, employment and health and safety regulations, data security laws, data privacy laws, export/import laws, tax policies such as export subsidy programs and research and experimentation credits, carbon emission regulations and energy efficiency and design regulations and other similar programs). Failure to comply with any of the foregoing could result in civil and criminal, monetary and non-monetary penalties as well as potential damage to our reputation. We cannot provide assurance that our costs of complying with new and evolving regulatory reporting requirements and current or future laws will not exceed our estimates. In addition, the Brexit referendum in the United Kingdom in 2016 has caused and may continue to cause political and economic uncertainty, including significant volatility in global stock markets and currency exchange rate fluctuations. Although it is unknown what the full terms of the United Kingdom's future relationship with the European Union will be, it is possible that there will be greater restrictions on imports and exports between the United Kingdom and other countries and increased regulatory complexities. Any of these factors could adversely affect customer demand, our relationships with customers and suppliers, and our business and financial position.

  We have invested in certain countries, including Brazil, Russia, India and China, and may in the future invest in other countries, any of which may carry high levels of currency, political, compliance, or economic risk. While these risks or the impact of these risks are difficult to predict, any one or more of them could adversely affect our businesses and reputation.

  Our effective tax rate is impacted by changes in the mix among earnings in countries with differing statutory tax rates, changes in the valuation allowance of deferred tax assets and changes in tax laws. The amount of income taxes and other taxes paid can be adversely impacted by changes in statutory tax rates and laws and are subject to ongoing audits by domestic and international authorities. If these audits result in assessments different from amounts estimated, then our consolidated results of operations, financial position and cash flows may be adversely affected by unfavorable tax adjustments.

- ***We could lose customers or generate lower revenue, operating profits and cash flows if there are significant increases in the cost of raw materials (including energy) or if we are unable to obtain raw materials.***

  We purchase raw materials, sub-assemblies and components for use in our manufacturing operations, which expose us to volatility in prices for certain commodities. Significant price increases for these commodities could adversely affect operating profits for certain of our businesses. While we generally attempt to mitigate the impact of increased raw material prices by hedging or passing along the increased costs to customers, there may be a time delay between the increased raw material prices and the ability to increase the prices of products, or we may be unable to increase the prices of products due to a competitor's pricing pressure or other factors. In addition, while raw materials are generally available now, the inability to obtain necessary raw materials could affect our ability to meet customer commitments and satisfy market demand for certain products. Consequently, a significant price increase in raw materials, or their unavailability, may result in a loss of customers and adversely impact our consolidated results of operations, financial condition and cash flows.

- ***Our growth and results of operations may be adversely affected if we are unsuccessful in our capital allocation and acquisition program.***

  We expect to continue our strategy of seeking to acquire value creating add-on businesses that broaden our existing position and global reach as well as, in the right circumstances, strategically pursue larger acquisitions that could have the potential to either complement our existing businesses or allow us to pursue a new platform. However, there can be no assurance that we will be able to continue to find suitable businesses to purchase, that we will be able to acquire such businesses on acceptable terms, or that all closing conditions will be satisfied with respect to any pending acquisition. In addition, we face the risk that a completed acquisition may underperform relative to expectations. We may not achieve the synergies originally anticipated, may become exposed to unexpected liabilities or may not be able to sufficiently integrate completed acquisitions into our current business and growth model. Further, if we fail to allocate our capital appropriately, in respect of either our acquisition program or organic growth in our operations, we could be overexposed in certain markets and geographies and unable to expand into adjacent products or markets. These factors could potentially have an adverse impact on our consolidated results of operations, financial condition and cash flows.

- ***Our operating profits and cash flows could be adversely affected if we cannot achieve projected savings and synergies.***

  We are continually evaluating our cost structure and seeking ways to capture synergies across our operations. For example, during 2018, we recorded rightsizing and other related costs of $72.8 million primarily related to actions taken on employee reductions, facility consolidations and site closures, product line exits and other associated asset charges. These rightsizing activities and our regular ongoing cost reduction activities (including in connection with the integration of acquired businesses) may reduce our available talent, assets and other resources and could slow improvements in our products and services, adversely affect our ability to respond to customers and limit our ability to increase production quickly if demand for our products increases. In addition, delays in implementing planned restructuring activities or other productivity improvements, and unexpected costs or failure to meet targeted improvements may diminish the operational or financial benefits we expect to realize through our various programs. Any of the circumstances described above could adversely affect our consolidated results of operations, financial condition and cash flows.

- ***Our operations, businesses and products are subject to cybersecurity risks.***

  We depend on our own and third party information technology ("IT") systems, including cloud-based systems and managed service providers, to store, process and protect our information and support our business activities. We also use our third party IT systems to support employee data processing for our global work force and to support customer business activities, such as transmitting payment information, providing mobile monitoring services, and capturing operational data. Additionally, some of our products contain computer hardware and software and offer the ability to connect to computer networks. If these technologies, systems, products or services are damaged, cease to function properly, are compromised due to employee error, user error, malfeasance, system errors, or other vulnerabilities, or are subject to cybersecurity attacks, such as those involving unauthorized access, malicious software, or other intrusions, including by criminals, nation states or insiders, our business may be adversely impacted. The impacts could include production downtimes, operational delays, and other impacts on our operations and ability to provide products and services to our customers; compromise of confidential, proprietary or otherwise protected information, including personal information and customer confidential data; destruction, corruption, or theft of data; manipulation, disruption, or improper use of these technologies, systems, products or services; financial losses from remedial actions, loss of business or potential liability; adverse media coverage; and legal claims or legal proceedings, including regulatory investigations and actions; and damage to our reputation. There has been a rise in the number of cyberattacks targeting confidential business information generally and in the manufacturing industry specifically, as well as an increase in cyberattacks targeting managed service providers, by both state-sponsored and criminal organizations. Moreover, there has been a rise in the number of cyberattacks that depend on human error or manipulation, including phishing attacks or schemes that use social engineering to gain access to systems or perpetuate wire transfer or other frauds. These trends raise the risks from such events as well as the costs associated with protecting against such attacks. It is possible for vulnerabilities in our IT systems to remain undetected for an extended period of time up to and including several years. While we attempt to mitigate these risks by employing a number of measures, including employee training, systems monitoring and other technical security controls, a breach response plan, maintenance of backup and protective systems, and security personnel, our systems, networks, products and services remain potentially vulnerable to known or unknown cybersecurity attacks and other threats, any of which could have a material adverse effect on our consolidated results of operations, financial condition and cash flows. While we maintain insurance coverage that is intended to address certain aspects of cybersecurity risks, such insurance coverage may not cover all losses or all types of claims that arise. As cyber threats continue to evolve, cybersecurity and data protection laws and regulations continue to develop in the U.S. and globally, and our business continues to move towards increased online connectivity within our information systems and through more Internet-enabled products and offerings, we may be required to expend additional resources to continue to strengthen our information security, data protection and business continuity measures, and investigate and remediate vulnerabilities.

- ***Unforeseen developments in contingencies such as litigation and product recalls could adversely affect our consolidated results of operations, financial condition and cash flows.***

  We and certain of our subsidiaries are, and from time to time may become, parties to a number of legal proceedings incidental to our businesses, including alleged injuries arising out of the use of products or exposure to hazardous substances, or claims related to patent infringement, employment matters and commercial disputes. The defense of these lawsuits may require significant expenses and divert management's attention, and we may be required to pay damages that could adversely affect our consolidated results of operations, financial condition and cash flows. In addition, any insurance or indemnification rights that we may have may be insufficient or unavailable to protect us against potential loss exposures.

We may be exposed to product recalls and adverse public relations if our products are alleged to have defects, to cause property damage, to cause injury or illness, or if we are alleged to have violated governmental regulations. For example, during the fourth quarter of 2016, we determined there was a quality issue with a product component part in the Fluids segment and voluntarily reported this issue to the U.S. Consumer Product Safety Commission ("CPSC"). During the first quarter of 2017, we announced a voluntary recall of the product in conjunction with the CPSC that has since been satisfactorily closed out in 2018. See Note 15 — Commitments and Contingent Liabilities in the Consolidated Financial Statements in Item 8 of this Form 10-K for additional information. A product recall could result in substantial and unexpected expenditures, which would reduce operating profit and cash flow. In addition, a product recall may require significant management attention. Product recalls may hurt the value of our brands and lead to decreased demand for our products. Product recalls also may lead to increased scrutiny by federal, state or international regulatory agencies of our operations and increased litigation and could have a material adverse effect on our consolidated results of operations, financial condition and cash flows.

• ***If the Apergy spin-off, together with certain related transactions, does not qualify as a transaction that is generally tax-free for U.S. federal income tax purposes, we and our shareholders could be subject to significant tax liabilities.***

In connection with the spin-off of Apergy, we received a private letter ruling from the Internal Revenue Service (the "IRS Ruling") together with an opinion of McDermott Will & Emery LLP, our tax counsel, substantially to the effect that, among other things, certain transactions to effect the spin-off will qualify as a tax-free reorganization for U.S. federal income tax purposes under Section 368(a)(1)(D) of the Internal Revenue Code (the "Code"), and the distribution will qualify as a tax-free distribution to our shareholders under Section 355 of the Code. The IRS Ruling and the opinion of tax counsel relied on certain facts and assumptions, and certain representations and undertakings from us and Apergy, including those regarding the past and future conduct of certain of our businesses and other matters. If any of these facts, assumptions, representations or undertakings are incorrect or not satisfied, we and our shareholders may not be able to rely on the IRS Ruling or the opinion, and could be subject to significant tax liabilities. Notwithstanding the IRS Ruling and the opinion, the IRS could determine on audit that the distribution is taxable if it determines that any of these facts, assumptions, representations or undertakings are not correct or have been violated or if it disagrees with the conclusions in the opinion. In addition, we and Apergy intend for certain related transactions to qualify for tax-free treatment under U.S. federal, state and local tax law and/or foreign tax law.

If the distribution is determined to be taxable for U.S. federal income tax purposes, we and our shareholders that are subject to U.S. federal income tax could incur significant U.S. federal income tax liabilities. For example, if the distribution fails to qualify for tax-free treatment, we would, for U.S. federal income tax purposes, be treated as if we had sold the Apergy common stock in a taxable sale for its fair market value, and our shareholders who are subject to U.S. federal income tax would be treated as receiving a taxable distribution in an amount equal to the fair market value of the Apergy common stock received in the distribution. In addition, if certain related transactions fail to qualify for tax-free treatment under U.S. federal, state and local tax law and/or foreign tax law, we could incur significant tax liabilities under U.S. federal, state, local and/or foreign tax law, respectively.

• ***The indemnification provisions of acquisition and disposition agreements by which we have acquired or sold or disposed of companies may not fully protect us and may result in unexpected liabilities.***

Certain of the acquisition agreements by which we have acquired companies require the former owners to indemnify us against certain liabilities related to the operation of those companies before we acquired them. In most of these agreements, however, the liability of the former owners is limited and certain former owners may be unable to meet their indemnification responsibilities. Similarly, the purchasers of our discontinued operations may from time to time agree to indemnify us for operations of such businesses after the closing. We cannot be assured that any of these indemnification provisions will fully protect us, and as a result we may face unexpected liabilities that adversely affect our consolidated results of operations, financial condition and cash flows. In addition, we have retained certain liabilities directly or through indemnifications made to the buyers of businesses we have sold or disposed against known and unknown contingent liabilities such as tax liabilities and environmental matters.

In connection with the spin-off, Apergy agreed to indemnify us for any losses relating to the conduct of the Apergy business. There can be no assurance that the indemnity agreements will be sufficient to protect us against the full amount of any liabilities that may arise, or that the indemnitors will be able to fully satisfy their indemnification obligations. The failure to receive amounts for which we are entitled to indemnification could adversely affect our results of operations, cash flows and financial condition.

- ***Our reputation, ability to do business and results of operations may be impaired by improper conduct by any of our employees, agents, or business partners.***

  While we strive to maintain high standards, we cannot provide assurance that our internal controls and compliance systems will always protect us from acts committed by our employees, agents, or business partners that would violate United States and/or non-United States laws or fail to protect our confidential information, including the laws governing payments to government officials, bribery, fraud, anti-kickback and false claims, competition, export and import compliance, money laundering and data privacy, as well as the improper use of proprietary information or social media. Any such violations of law or improper actions could subject us to civil or criminal investigations in the United States and in other jurisdictions, could lead to substantial civil or criminal, monetary and non-monetary penalties and related shareholder lawsuits, could lead to increased costs of compliance and could damage our reputation, our consolidated results of operations, financial condition and cash flows.

- ***Our revenue, operating profits and cash flows could be adversely affected if our businesses are unable to protect or obtain patent and other intellectual property rights.***

  Our businesses own patents, trademarks, licenses and other forms of intellectual property related to their products and continuously invest in research and development that may result in innovations and general intellectual property rights. Our businesses employ various measures to develop, maintain and protect their intellectual property rights. These measures may not be effective in capturing intellectual property rights, and they may not prevent their intellectual property from being challenged, invalidated, or circumvented, particularly in countries where intellectual property rights are not highly developed or protected. Unauthorized use of our businesses' intellectual property rights could adversely impact the competitive position of our businesses and could have a negative impact on our consolidated results of operations, financial condition and cash flows.

- ***If we experience work stoppages, union and works council campaigns and other labor disputes, our productivity and results of operations could be adversely impacted.***

  We have a number of collective bargaining units in the United States and various foreign collective labor arrangements. We are subject to potential work stoppages, union and works council campaigns and other labor disputes, any of which could adversely impact our productivity, reputation, consolidated results of operations, financial condition and cash flows.

ITEM 1B. UNRESOLVED STAFF COMMENTS

Not applicable.

ITEM 2. PROPERTIES

The number, type, location and size of the properties used by our operations as of December 31, 2018 are shown in the following charts, by segment:

	Number and nature of facilities				Square footage (in 000s)	
	Manufacturing	Warehouse	Sales / Service	Total	Owned	Leased
Engineered Systems	43	38	75	156	3,491	2,046
Fluids	63	18	41	122	4,109	3,277
Refrigeration & Food Equipment	23	23	18	64	1,556	2,459

	Locations					Expiration dates of leased facilities (in years)	
	North America	Europe	Asia	Other	Total	Minimum	Maximum
Engineered Systems	37	55	30	1	123	1	10
Fluids	31	28	19	9	87	1	14
Refrigeration & Food Equipment	32	11	9	2	54	1	10

Our owned and leased facilities are well-maintained and suitable for our operations.

ITEM 3. LEGAL PROCEEDINGS

A few of our subsidiaries are involved in legal proceedings relating to the cleanup of waste disposal sites identified under federal and state statutes which provide for the allocation of such costs among "potentially responsible parties." In each instance, the extent of the subsidiary’s liability appears to be relatively insignificant in relation to the total projected expenditures and the number of other "potentially responsible parties" involved and it is anticipated to be immaterial to us on a consolidated basis. In addition, a few of our subsidiaries are involved in ongoing remedial activities at certain plant sites, in cooperation with regulatory agencies, and appropriate reserves have been established. At December 31, 2018 and 2017, we have reserves totaling $31.8 million and $35.0 million, respectively, for environmental and other matters, including private party claims for exposure to hazardous substances, that are probable and estimable.

The Company and certain of its subsidiaries are also parties to a number of other legal proceedings incidental to their businesses. These proceedings primarily involve claims by private parties alleging injury arising out of use of the Company’s products, exposure to hazardous substances, patent infringement, employment matters and commercial disputes. Management and legal counsel, at least quarterly, review the probable outcome of such proceedings, the costs and expenses reasonably expected to be incurred and currently accrued to-date and consider the availability and extent of insurance coverage. The Company has reserves for other legal matters that are probable and estimable and at December 31, 2018 and 2017, these reserves are not significant. While it is not possible at this time to predict the outcome of these legal actions, in the opinion of management, based on the aforementioned reviews, the Company is not currently involved in any legal proceedings which, individually or in the aggregate, could have a material effect on its financial position, results of operations, or cash flows.

ITEM 4. MINE SAFETY DISCLOSURES

Not applicable.

EXECUTIVE OFFICERS OF THE REGISTRANT

All of our officers are elected annually at the first meeting of the Board of Directors following our annual meeting of shareholders, and are subject to removal at any time by the Board of Directors. Our executive officers as of February 15, 2019, and their positions with Dover (and, where relevant, prior business experience) for the past five years, are as follows:

Name	Age	Positions Held and Prior Business Experience
Richard J. Tobin	55	President and Chief Executive Officer (since May 2018) and Director (since August 2016); prior thereto Chief Executive Officer (from 2013 to 2018) of CNH Industrial NV.
Ivonne M. Cabrera	52	Senior Vice President, General Counsel and Secretary of Dover (since January 2013); prior thereto Vice President, Deputy General Counsel, and Assistant Secretary of Dover (from November 2012 to December 2012); prior thereto Vice President, Business Affairs and General Counsel of Knowles Electronics, LLC (from February 2011 to December 2012); prior thereto Vice President (from May 2010 to February 2011), Deputy General Counsel and Assistant Secretary (from February 2004 to February 2011) of Dover.
Brad M. Cerepak	59	Senior Vice President and Chief Financial Officer (since May 2011) of Dover; prior thereto Vice President and Chief Financial Officer (from August 2009 to May 2011) of Dover.
Jay L. Kloosterboer	58	Senior Vice President, Human Resources (since May 2011) of Dover; prior thereto Vice President, Human Resources (from January 2009 to May 2011) of Dover.
William W. Spurgeon, Jr.	60	Vice President (since October 2004) of Dover and President and Chief Executive Officer (since February 2014) of Dover Fluids; prior thereto President and Chief Executive Officer (from August 2013 to February 2014) of Dover Engineered Systems; prior thereto President and Chief Executive Officer (from November 2011 to August 2013) of Dover Energy; prior thereto President and Chief Executive Officer (from July 2007 to November 2011) of Dover Fluid Management.
Carrie Anderson	50	Vice President, Controller (since May 2017) of Dover; prior thereto Vice President and Chief Financial Officer (from February 2014 to May 2017) of Dover Engineered Systems; prior thereto Vice President and Chief Financial Officer (October 2011 to February 2014) of Dover's former Printing & Identification segment.
Girish Juneja	49	Senior Vice President and Chief Digital Officer (since May 2017) of Dover; prior thereto Senior Vice President/Chief Technology Officer and General Manager of the Marketplace Solutions Business of Altisource (from January 2014 to April 2017); prior thereto General Manager, Big Data Software Products and Chief Technology Officer, Datacenter Software of Intel Corporation (from January 2012 to January 2014).
Anthony K. Kosinski	52	Vice President, Tax (since June 2016) of Dover; prior thereto Director, Domestic Tax (June 2003 to June 2016) of Dover.
James M. Moran	53	Vice President, Treasurer (since November 2015) of Dover; prior thereto Senior Vice President and Treasurer (from June 2013 to August 2015) of Navistar International Corporation (“NIC”); prior thereto Vice President and Treasurer (from 2008 to June 2013) of NIC; also served as Senior Vice President and Treasurer of Navistar, Inc. (from June 2013 to August 2015) and Vice President and Treasurer of Navistar, Inc. (from 2008 to June 2013); also served as Senior Vice President and Treasurer of Navistar Financial Corporation (“NFC”) (from April 2013 to August 2015) and Vice President and Treasurer of NFC (from January 2013 to April 2013).

PART II

ITEM 5. MARKET FOR REGISTRANT'S COMMON EQUITY, RELATED SHAREHOLDER MATTERS AND ISSUER PURCHASES OF EQUITY SECURITIES

Market Information and Dividends

The principal market in which Dover common stock is traded is the New York Stock Exchange.

Holders

The number of holders of record of Dover common stock as of February 1, 2019 was approximately 18,198. This figure includes participants in our domestic 401(k) program.

Securities Authorized for Issuance Under Equity Compensation Plans

Information regarding securities authorized for issuance under our equity compensation plans is contained in Part III, Item 12 of this Form 10-K.

Recent Sales of Unregistered Securities

None.

Issuer Purchases of Equity Securities

In January 2015, the Board of Directors approved a standing share repurchase authorization, whereby the Company could repurchase up to 15,000,000 shares of its common stock over the following three years. During the year ended December 31, 2018, under the January 2015 authorization the Company purchased 440,608 shares of its common stock at a total cost of $45.0 million, or $102.08 per share. There were 5,271,168 shares available for repurchase under this authorization upon expiration. In February 2018, the Company's Board of Directors approved a new standing share repurchase authorization, whereby the Company may repurchase up to 20,000,000 shares of its common stock through December 31, 2020. This share repurchase authorization replaced the January 2015 share repurchase authorization.

On May 22, 2018, the Company entered into a $700 million accelerated share repurchase agreement (the “ASR Agreement”) with Goldman Sachs & Co. LLC (“Goldman Sachs”) pursuant to which it repurchased its shares in an accelerated share repurchase program (the “ASR Program”). The Company conducted the ASR Program under the February 2018 share repurchase authorization. The Company funded the ASR Program with funds received from Apergy in connection with the consummation of the Apergy spin-off. During 2018, the Company received a total of 8,542,566 shares under the ASR Agreement.

Additionally, during the year ended December 31, 2018, under the February 2018 authorization, exclusive of the ASR Agreement, the Company purchased 1,753,768 shares of its common stock at a total cost of $150.0 million, or $85.53 per share. As of December 31, 2018, the number of shares available for repurchase under the February 2018 share repurchase authorization was 9,703,666.

Together with other repurchases in December 2017 and over the course of 2018, the Company has completed the $1 billion of share repurchases it announced in November 2017.

The total number of shares purchased by month during the fourth quarter of 2018 were as follows:

Period	Total Number of Shares Purchased	Average Price Paid per Share	Total Number of Shares Purchased as Part of Publicly Announced Plans or Programs	Maximum Number (or Approximate Dollar Value in Thousands) of Shares that May Yet Be Purchased under the Plans or Program
				February 2018 Program
October 1 to October 31	24,720	$ 89.27	24,720	11,167,481
November 1 to November 30	—	—	—	11,167,481
December 1 to December 31	1,463,815	81.94 (1)	1,463,815	9,703,666
For the Fourth Quarter	1,488,535	$ 82.06	1,488,535	9,703,666

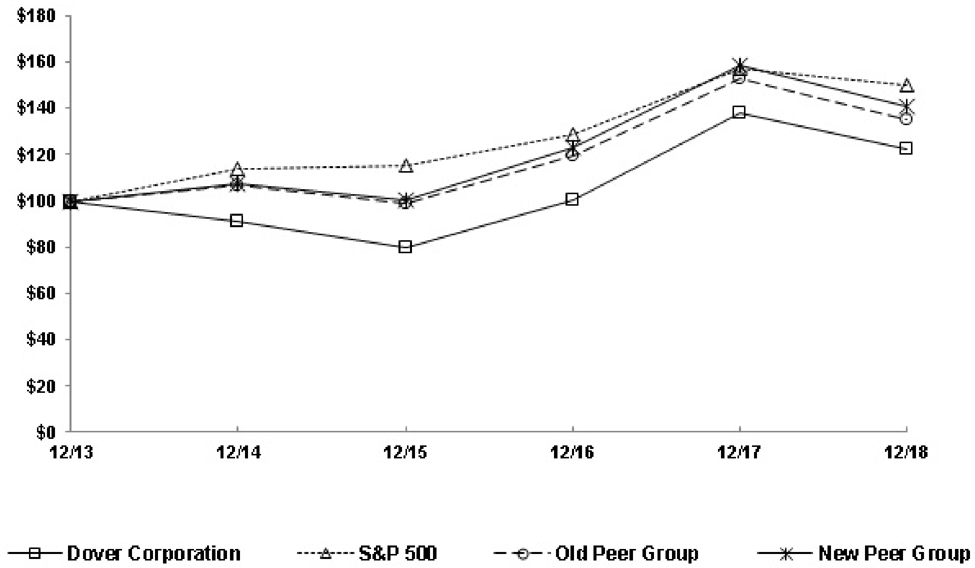
(1) Under the terms of the ASR Agreement, the Company paid Goldman Sachs $700 million on May 24, 2018 and on that date received initial deliveries of 7,078,751 shares, representing a substantial majority of the shares expected to be retired over the course of the ASR Agreement. Upon final settlement of the ASR Agreement in December 2018, the Company received an additional 1,463,815 shares of its common stock which completed the ASR Program. The total number of shares ultimately repurchased under the ASR Agreement was based on the volume-weighted average share price (VWAP) of Dover's common stock during the calculation period of the ASR Program, less a discount, which was $81.94 over the term of the ASR Program.

Performance Graph

This performance graph does not constitute soliciting material, is not deemed filed with the Securities and Exchange Commission ("SEC"), and is not incorporated by reference in any of our filings under the Securities Act of 1933 or the Exchange Act of 1934, whether made before or after the date of this Form 10-K and irrespective of any general incorporation language in any such filing, except to the extent we specifically incorporate this performance graph by reference therein.

Comparison of Five-Year Cumulative Total Return +
Dover Corporation, S&P 500 Index, Old & New Peer Group Index

Total Shareholder Returns



Data Source: Research Data Group, Inc

+Total return assumes reinvestment of dividends.

This graph assumes $100 invested on December 31, 2013 in Dover common stock, the S&P 500 index and an old and new peer group index.

The 2018 new peer index consists of the following 30 public companies selected by Dover.

3M Company	Flowserve Corporation	Nordson Corp.
Actuant Corp.	Fortive Corp. *	Parker-Hannifin Corp.
AMETEK Inc.	Gardner Denver Holdings Inc.	Pentair PLC
Carlisle Companies Inc.	Honeywell International Inc.	Regal Beloit Corp.
Colfax Corp. *	IDEX Corporation	Rockwell Automation Inc.
Corning Inc.	Illinois Tool Works Inc.	Snap-On Inc.
Crane Company	Ingersoll-Rand PLC	SPX Flow Inc. *
Danaher Corporation	ITT Inc. *	Teledyne Technologies Inc.
Eaton Corporation Plc	Johnson Controls International PLC	Textron Inc.
Emerson Electric Co.	Lennox International Inc.	The Timken Company

*We re-examined our Old Peer Group in light of the Apergy spin-off and adjusted our peer companies to better align with our current business profile. These companies were added to our New Peer Group index in 2018. The following companies in our

Old Peer Group are no longer included within the New Peer Group index: Amphenol Corp., Hubbell Incorporated, Roper Industries, SPX Corporation, United Technologies Corp., Vishay Intertechnology Inc., and Weatherford International PLC.

ITEM 6. SELECTED FINANCIAL DATA

in thousands except per share data	2018	2017	2016	2015	2014
Revenue	$ 6,992,118	$ 6,820,886	$ 6,043,224	$ 5,879,842	$ 6,222,308
Earnings from continuing operations	591,145	746,663	502,128	525,208	529,730
(Loss) earnings from discontinued operations	(20,878)	65,002	6,764	344,621	245,505
Net earnings	570,267	811,665	508,892	869,829	775,235
Basic earnings (loss) per share:					
Continuing operations	$ 3.94	$ 4.80	$ 3.23	$ 3.33	$ 3.18
Discontinued operations	(0.14)	0.42	0.04	2.19	1.47
Net earnings	3.80	5.21	3.28	5.52	4.65
Weighted average basic shares outstanding	149,874	155,685	155,231	157,619	166,692
Diluted earnings (loss) per share:					
Continuing operations	$ 3.89	$ 4.73	$ 3.21	$ 3.30	$ 3.14
Discontinued operations	(0.14)	0.41	0.04	2.17	1.45
Net earnings	3.75	5.15	3.25	5.46	4.59
Weighted average diluted shares outstanding	152,133	157,744	156,636	159,172	168,842
Dividends per common share	$ 1.90	$ 1.82	$ 1.72	$ 1.64	$ 1.55
Capital expenditures	$ 170,994	$ 170,068	$ 139,578	$ 130,045	$ 120,460
Depreciation and amortization	282,580	283,278	249,672	207,817	218,114
Total assets	8,365,771	10,658,359	10,130,325	8,606,075	9,030,290
Total long-term debt, including current maturities	2,943,660	3,336,713	3,207,632	2,603,504	2,552,625

All results and data in the table above reflect continuing operations, unless otherwise noted. See Note 4 — Acquisitions and Note 5 — Discontinued and Disposed Operations in the Consolidated Financial Statements in Item 8 of this Form 10-K for additional information regarding the impact of 2018, 2017 and 2016 acquisitions and disposed and discontinued operations.

ITEM 7. 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 ("MD&A") is intended to help the reader understand our results of operations and financial condition for the three years ended December 31, 2018, 2017 and 2016. The MD&A should be read in conjunction with our Consolidated Financial Statements and Notes included in Item 8 of this Form 10-K. This discussion contains forward-looking statements that involve risks and uncertainties. Our actual results could differ materially from those anticipated in these forward-looking statements as a result of various factors, including those discussed elsewhere in this Form 10-K, particularly in Item 1A. "Risk Factors" and in the "Special Note Regarding Forward-Looking Statements" preceding Part I of this Form 10-K.

Throughout this MD&A, we refer to measures used by management to evaluate performance, including a number of financial measures that are not defined under accounting principles generally accepted in the United States of America ("GAAP"). Please see "Non-GAAP Disclosures" at the end of this Item 7 for further detail on these financial measures. We believe these measures provide investors with important information that is useful in understanding our business results and trends. Reconciliations within this MD&A provide more details on the use and derivation of these measures.

OVERVIEW

Dover is a diversified global manufacturer delivering innovative equipment and components, specialty systems, consumable supplies, software and digital solutions and support services through three operating segments: Engineered Systems, Fluids, and Refrigeration & Food Equipment.

For the year ended December 31, 2018, consolidated revenue from continuing operations was $7.0 billion, an increase of $0.2 billion or 2.5%, as compared to the prior year. This increase included organic revenue growth of 3.7%, a favorable impact of 0.8% from foreign currency, and acquisition-related growth of 0.5%, partially offset by a 2.5% impact from dispositions. Overall, customer pricing had a favorable impact of 1.0% on revenue for the year.

Within our Engineered Systems segment, revenue increased $75.0 million, or 2.8%, from the prior year, reflecting organic growth of 5.8%, a favorable impact from foreign currency of 1.5%, and acquisition-related growth of 0.1%, partially offset by a 4.6% impact from dispositions. Organic growth was broad-based across the segment with particular strength in our Printing & Identification platform and environmental solutions and defense businesses. Our Fluids segment revenue increased $242.3 million, or 9.5%, comprised of organic growth of 8.7%, acquisition-related growth of 0.7%, and a favorable foreign currency impact of 0.3%, partially offset by a 0.2% impact from dispositions. The organic growth was principally driven by strong activity in international retail fueling, industrial pumps and other industrial markets. Within our Refrigeration & Food Equipment segment, revenue decreased $146.0 million, or 9.1%, from the prior year, including an organic revenue decline of 7.9% and a decline of 2.6% due to a disposition, partially offset by a favorable impact from foreign currency translation of 0.7% and acquisition-related growth of 0.7%. The organic decline was driven primarily by continued weak retail refrigeration markets, especially with respect to refrigerated door cases.

Gross profit was $2.6 billion for the year ended December 31, 2018, an increase of $30.5 million, or 1.2%, as compared to the prior year. The increase was primarily due to growth in sales volumes as well as the benefits of prior restructuring actions, partially offset by lost gross profit from divestitures. Gross profit margin was 36.6% for the year ended December 31, 2018 compared to 37.1% for the prior year primarily as a result of unfavorable product mix and rising material costs in our Refrigeration and Food Equipment segment and the impact of inefficiencies due to facility consolidations principally in our Fluids segment. For further discussion related to our consolidated and segment results, see "Consolidated Results of Operations" and "Segment Results of Operations," respectively, within MD&A.

Bookings increased 5.1% over the prior year to $7.3 billion for the year ended December 31, 2018. Included in this result was a 5.3% increase in organic bookings, a 1.7% favorable impact due to foreign exchange rates, and a 0.5% increase in acquisition-related bookings, which were partially offset by a 2.4% decline due to dispositions. Bookings increased 11.0% and 6.3% within our Fluids and Engineered Systems segments, respectively, while bookings in our Refrigeration & Food Equipment segment decreased 6.8%. Overall, our book-to-bill increased from the prior year to 1.04. Backlog as of December 31, 2018 was $1.4 billion, up from $1.2 billion from the prior year. Backlog as of December 31, 2018 included $0.6 billion, $0.5 billion and $0.3 billion in the Engineered Systems, Fluids and Refrigeration and Food Equipment segments, respectively.

From a geographic perspective, revenue for the U.S., our largest market, grew by 2.1% organically over the prior year, where broad-based growth in Engineered Systems and Fluids was partially offset by our retail refrigeration business in the Refrigeration and Food Equipment segment, which is primarily a domestic business. Asia and Europe also grew organically by 15.2% and 2.7%, respectively, over the prior year.

On May 9, 2018, the Company completed the separation of Apergy Corporation ("Apergy") from Dover through the pro rata distribution of 100% of the common stock of Apergy to Dover's shareholders of record as of the close of business on April 30, 2018. Each Dover shareholder received one share of Apergy common stock for every two shares of Dover common stock held as of the record date. As a result, Apergy became an independent, publicly traded company listed on the New York Stock Exchange, and Dover retained no ownership interest in Apergy. The distribution was structured to be tax-free to Dover and its shareholders for U.S. federal income tax purposes. Apergy holds entities conducting the upstream energy businesses previously included within our Energy segment. Following the spin-off, effective the second quarter of 2018, the Company no longer has the Energy segment and is aligned into three reportable segments. The retained Precision Components (Bearings & Compression) and Tulsa Winch Group businesses, which were historically reported within the Energy segment, became a part of the Fluids and Engineered Systems segments, respectively. See Note 2 Spin-off of Apergy Corporation and Note 5 — Discontinued and Disposed Operations in the Consolidated Financial Statements in Item 8 of this Form 10-K for additional information regarding the spin off of Apergy.

During the year ended December 31, 2018, we executed several programs in order to further optimize operations. Rightsizing programs in 2018 included 1) alignment of our cost structure in preparation for the Apergy separation, 2) broad-based selling, general and administrative expense reduction initiatives and 3) initiation of footprint consolidation actions. We recorded rightsizing and other related costs of $72.8 million for the year ended December 31, 2018, which was comprised of $56.1 million of rightsizing costs and $16.7 million of other charges. These costs primarily related to actions taken for employee reductions, facility consolidations and site closures and product line divestitures and other asset charges designed to increase operating margin, enhance operations and position us for sustained growth and investment. These charges were broad based across all segments as well as corporate, with costs incurred of $19.9 million in Engineered Systems, $28.7 million in Fluids, $10.0 million in Refrigeration & Food Equipment, and $14.2 million at Corporate. These charges were recorded in cost of goods and services, selling, general and administrative expenses, and other expense (income), net, in the Consolidated Statement of Earnings. We expect to incur total future charges of approximately $20 million related to completion of our selling, general and administrative expense reduction actions and continuation of our footprint consolidation initiatives, approximately $15 million which will be incurred during the year ended December 31, 2019 and approximately $5 million of which we expect to incur in 2020.

On December 22, 2017, the SEC staff issued Staff Accounting Bulletin No. 118 ("SAB 118") to address the application of U.S. GAAP in situations when a registrant does not have the necessary information available, prepared, or analyzed (including computations) in reasonable detail to complete the accounting for certain income tax effects of the U.S. bill commonly referred to as the Tax Cuts and Jobs Act ("Tax Reform Act"). In accordance with the SAB 118 guidance, we recognized the provisional tax impacts related to deemed repatriated earnings and the benefit for the revaluation of deferred tax assets and liabilities in our consolidated financial statements for the year ended December 31, 2017. In accordance with SAB 118, we finalized the financial reporting impact of the Tax Reform Act in the fourth quarter of 2018. For the year ended December 31, 2018, we recorded a net tax benefit of $4.2 million which resulted in a 0.6% decrease in effective tax rate, as an adjustment to provisional estimates as a result of additional regulatory guidance and changes in interpretations and assumptions we made as a result of the Tax Reform Act. On a full year basis, the effective tax rate for 2018 was 18.5%, inclusive of the SAB 118 amounts.

During the year ended December 31, 2018, we made a total of two acquisitions totaling $68.6 million, net of cash acquired. We completed the acquisition of Ettlinger Group ("Ettlinger"), a leading manufacturer of filtering solutions for the plastics recycling industry for $53.2 million, net of cash acquired. Ettlinger enhances our ability to serve the Process Solutions end market within our Fluids segment. We also completed the acquisition of Rosario Handel B.V. ("Rosario"), a manufacturer of decorator and base coating machinery used in the production of beverage, food and aerosol cans for total consideration of $15.3 million, net of cash acquired. Rosario enhances our ability to serve the Food Equipment end market within our Refrigeration & Food Equipment segment. See Note 4 — Acquisitions in the Consolidated Financial Statements in Item 8 of this Form 10-K for further details regarding the businesses acquired during the year. Subsequently, in January 2019, we acquired Belanger, Inc. ("Belanger"), a leading full-line car wash equipment manufacturer, for approximately $180 million. Belanger strengthens our position in the Fueling & Transport end market within our Fluids segment.

During the year ended December 31, 2018, we purchased 10.7 million shares of our common stock for a total cost of $895.0 million, or $83.35 per share. Together with other repurchases in December 2017, we have completed the $1 billion of share repurchases announced in November 2017. As of December 31, 2018, 9,703,666 shares remain authorized for repurchase under our current share repurchase authorization. We also continued our 63 year history of increasing our annual dividend payments to shareholders and paid a total of $283.6 million in dividends to our shareholders.

CONSOLIDATED RESULTS OF OPERATIONS

	Years Ended December 31,			% / Point Change	
(dollars in thousands, except per share figures)	2018	2017	2016	2018 vs. 2017	2017 vs. 2016
Revenue	$ 6,992,118	$ 6,820,886	$ 6,043,224	2.5 %	12.9 %
Cost of goods and services	4,432,562	4,291,839	3,815,672	3.3 %	12.5 %
Gross profit	2,559,556	2,529,047	2,227,552	1.2 %	13.5 %
Gross profit margin	*36.6 %*	*37.1 %*	*36.9 %*	*(0.50)*	*0.20*
Selling, general and administrative expenses	1,716,444	1,722,161	1,518,580	(0.3)%	13.4 %
Selling, general and administrative expenses as a percent of revenue	*24.5 %*	*25.2 %*	*25.1 %*	*(0.70)*	*0.10*
Interest expense	130,972	144,948	135,969	(9.6)%	6.6 %
Interest income	(8,881)	(8,491)	(6,752)	4.6 %	25.8 %
Other income, net	(4,357)	(2,251)	(8,291)	93.6 %	(72.9)%
Gain on sale of businesses	—	(203,135)	(96,598)	nm*	nm*
Provision for income taxes	134,233	129,152	182,516	3.9 %	(29.2)%
Effective tax rate	*18.5 %*	*14.7 %*	*26.7 %*	*3.8*	*(12.0)*
Earnings from continuing operations	591,145	746,663	502,128	(20.8)%	48.7 %
(Loss) earnings from discontinued operations, net	(20,878)	65,002	6,764	nm*	nm*
Earnings from continuing operations per common share - diluted	3.89	4.73	$ 3.21	(17.8)%	47.4 %
(Loss) earnings from discontinued operations per common share -diluted	$ (0.14)	$ 0.41	$ 0.04	nm*	nm*

* nm: not meaningful

Revenue

For the year ended December 31, 2018, revenue increased $171.2 million, or 2.5% to $7.0 billion compared with 2017, reflecting organic growth of 3.7% led by our Fluids and Engineered Systems segments, partially offset by our Refrigeration and Food Equipment segment, acquisition-related growth of 0.5% from our Fluids and Refrigeration and Food Equipment segments and a favorable impact from foreign currency translation of 0.8%. Revenue growth was partially offset by a 2.5% impact from dispositions within our Engineered Systems segment. Customer pricing favorably impacted revenue by approximately 1.0% in 2018.

For the year ended December 31, 2017, revenue increased $777.7 million, or 12.9% to $6.8 billion compared with 2016, reflecting a growth from acquisitions of 10.9%, an organic growth of 4.6%, and a favorable impact of 0.5% from foreign currency translation, offset by a decline from dispositions of 3.1%. Acquisition-related growth of 10.9% was led by the Fluids and Engineered Systems segments, largely due to the full-year benefit from the 2016 acquisitions of Wayne Fueling Systems Ltd. ("Wayne") within our Fluids segment and Ravaglioli S.p.A Group ("RAV") within our Engineered Systems segment, as well as the 2017 acquisition of Caldera Graphics S.A.S. ("Caldera") within our Engineered Systems segment. Growth in organic revenue was largely driven by strong broad-based activity in the Engineered Systems segment. Organic growth also reflected strong shipments in our Pumps and Process Solutions businesses in the Fluids segment and solid retail refrigeration activity in the Refrigeration & Food Equipment segment. Overall customer pricing was favorable, impacting consolidated revenue 0.6%.

Gross Profit

For the year ended December 31, 2018, gross profit increased $30.5 million, or 1.2%, to $2.6 billion compared with 2017, primarily due to growth in sales volumes and benefits of prior restructuring actions, partially offset by the loss of gross profits due to divestitures. Gross profit margin decreased 50 basis points as compared to the prior year, due to unfavorable product mix and rising material costs in our Refrigeration and Food Equipment segment and the impact of inefficiencies due to facility consolidations principally in our Fluids segment.

For the year ended December 31, 2017, gross profit increased $301.5 million, or 13.5% to $2.5 billion compared with 2016, primarily due to growth in sales volumes and benefits of prior restructuring actions as well as a reduction of a product recall accrual of $7.2 million compared to a fourth quarter 2016 charge of $23.2 million. Gross profit margin increased 20 basis points compared with 2016.

Selling, General and Administrative Expenses

For the year ended December 31, 2018, selling, general and administrative expenses decreased $5.7 million, or 0.3% to $1.7 billion compared with 2017, primarily due to benefits from prior restructuring actions and decreases from dispositions within our Engineered Systems segment, offset by an increase in restructuring costs of $6.0 million. As a percentage of revenue, selling, general and administrative expenses decreased 50 basis points in 2018 to 24.5%, reflecting the leverage of costs on a higher revenue base and the decrease in expenses.

For the year ended December 31, 2017, selling, general and administrative expenses increased $203.6 million, or 13.4% to $1.7 billion compared with 2016 primarily reflecting the impact of acquisitions in 2017, including acquisition-related amortization expense of $18.0 million, higher restructuring charges of $15.9 million, disposition-related costs for Warn of $5.2 million and increased compensation costs. As a percentage of revenue, selling, general and administrative expenses remained consistent with 2016 at approximately 25%.

Non-Operating Items

Interest Expense

For the year ended December 31, 2018, interest expense, net of interest income, decreased $14.4 million, or 10.5%, to $122.1 million compared with 2017 due to the $350 million 5.45% 10-year notes that were paid in March 2018 that resulted in lower outstanding long-term debt and lower interest expense compared to 2017.

For the year ended December 31, 2017, interest expense, net of interest income, increased $7.2 million, or 5.6%, to $136.5 million compared with 2016 due to the full year impact of the fourth quarter 2016 issuance of the €600 million of 1.25% euro-denominated notes and higher interest rates on commercial paper in 2017.

Other income, net

For the years ended December 31, 2018, 2017 and 2016, other income, net was $4.4 million, $2.3 million and $8.3 million, respectively. For the year ended December 31, 2018, other income was primarily driven by non-operating gains from our defined benefit and post-retirement benefit plans of $5.8 million. For the year ended December 31, 2017, other income was primarily due to non-operating gains from our defined benefit and post-retirement benefit plans of $8.6 million partially offset by $6.9 million foreign exchange losses resulting from the re-measurement and settlement of foreign currency denominated balances. For the year ended December 31, 2016, other income was primarily due to earnings on equity method investments of $3.3 million and net foreign exchange gains of $3.6 million.

Gain on sale of businesses

There were no significant dispositions in 2018 aside from the spin-off of Apergy, whose results are presented as discontinued operations.

For the year ended December 31, 2017, gain on sale of businesses was $203.1 million. The gain was primarily due to the sales of PMI and the consumer and industrial winch business of Warn ("Warn"), both within the Engineered Systems segment, in which we recognized gains on sale of $88.4 million and $116.9 million, respectively. Other immaterial dispositions completed during the year were recorded as a net loss of $2.2 million.

For the year ended December 31, 2016, gain on sale of businesses was $96.6 million. The gain was primarily due to the sales of Texas Hydraulics ("THI"), a custom manufacturer of fluid power components within the Engineered Systems segment, and Tipper Tie, a global supplier of processing and clip packaging machines within the Refrigeration & Food Equipment segment. Upon disposal of THI and Tipper Tie, we recognized gains on sale of $11.9 million and $85 million, respectively.

The disposals in 2017 and 2016 did not represent strategic shifts in operations and, therefore, did not qualify for presentation as discontinued operations.

Income Taxes

Our businesses span the globe with 52.5%, 37.8% and 38.2% of our pre-tax earnings in 2018, 2017 and 2016, respectively, generated in foreign jurisdictions. Foreign earnings are generally subject to local country tax rates that differ from the 21.0% U.S. statutory tax rate. As a result of our non-U.S. business locations, our effective foreign tax rate is typically lower than the U.S. statutory tax rate.

Our effective tax rate was 18.5% for the year ended December 31, 2018, compared to 14.7% for the year ended December 31, 2017. The 2018 and 2017 rates were impacted by $24.0 million and $51.7 million, respectively, of favorable net discrete items, inclusive of the impact recorded for the U.S. Tax Reform Act in 2017 and the SAB 118 adjustment in 2018, as described below.

On December 22, 2017, the Tax Reform Act was enacted which reduced the U.S. corporate income tax rate from a maximum of 35% to a flat 21% rate, effective January 1, 2018. As a result of the reduction in the U.S. corporate income tax rate, we revalued our ending net deferred tax liabilities as of December 31, 2017 and recognized a provisional tax benefit of $172.0 million. The Tax Reform Act also imposed a tax for a one-time deemed repatriation of post-1986 unremitted foreign earnings and profit through the year ended December 31, 2017. For the year ended December 31, 2017, we recorded provisional tax expense related to the deemed repatriation of $111.6 million payable over eight years.

On December 22, 2017, the SEC staff issued SAB 118 to address the application of U.S. GAAP in situations when a registrant does not have the necessary information available, prepared, or analyzed (including computations) in reasonable detail to complete the accounting for certain income tax effects of the Tax Reform Act. In accordance with the SAB 118 guidance, we recognized the provisional tax impacts related to deemed repatriated earnings and the benefit for the revaluation of deferred tax assets and liabilities in our consolidated financial statements for the year ended December 31, 2017. In accordance with SAB 118, we finalized the financial reporting impact of the Tax Reform Act in the fourth quarter of 2018. For the year ended December 31, 2018, we recorded a $4.2 million net tax benefit, which resulted in a 0.6% decrease in the effective tax rate, as an adjustment to provisional estimates as a result of additional regulatory guidance and changes in interpretations and assumptions the Company has made as a result of the Tax Reform Act.

For the year ended December 31, 2016, our effective tax rate on continuing operations was 26.7%. The effective tax rate was impacted by favorable net discrete items totaling $13.6 million, principally related to settlements of uncertain tax matters.

We believe it is reasonably possible during the next twelve months that uncertain tax positions may be settled, which could result in a decrease in the gross amount of unrecognized tax benefits. This decrease may result in an income tax benefit. Due to the potential for resolution of federal, state, and foreign examinations and the expiration of various statutes of limitation, our gross unrecognized tax benefits balance may change within the next twelve months by a range of zero to $12.5 million. We believe adequate provision has been made for all income tax uncertainties.

Earnings from Continuing Operations

For the year ended December 31, 2018, earnings from continuing operations decreased $155.5 million, or 20.8%, to $591.1 million, or EPS of $3.89, compared with earnings from continuing operations of $746.7 million, or EPS of $4.73, for the year ended December 31, 2017. Earnings decreased primarily because we did not record any gains from dispositions in 2018 compared to 2017 when we recorded net gains from dispositions of $172.6 million, or EPS of $1.09. In 2018, we recorded a net tax benefit primarily from the Tax Reform Act of $4.2 million, or EPS of $0.03, whereas in 2017 we recorded a net tax benefit of $54.9 million, or EPS of $0.35. The 2018 results included after-tax rightsizing and other costs of $58.3 million, or EPS of $0.38, whereas 2017 included rightsizing and other costs of $34.6 million, or EPS of $0.22. Excluding these items in both years, earnings from continuing operations increased $91.4 million, or 16.5%, in 2018 as a result of higher earnings due to increased sales volumes. Diluted earnings per share improved due to the benefit of the share repurchase programs announced in November 2017.

For the year ended December 31, 2017, earnings from continuing operations increased $244.5 million, or 48.7%, to $746.7 million, or EPS of $4.73, compared with earnings from continuing operations of $502.1 million, or EPS of $3.21, for the year ended December 31, 2016. The 2017 results include a net benefit of $172.6 million, or EPS of $1.09 from dispositions, a net tax benefit primarily from the Tax Reform Act of $54.9 million, or EPS of $0.35, after-tax rightsizing and other costs of $34.6 million or EPS of $0.22 and a net benefit of $4.6 million, or EPS of $0.03, from a reduction to a previously recorded product recall accrual.

Discontinued Operations

The results of discontinued operations for December 31, 2018, 2017 and 2016 include the historical results of Apergy prior to its distribution on May 9, 2018. The years ended December 31, 2018 and 2017 included costs incurred by Dover to complete the spin-off of Apergy amounting to $46.4 million and $15.3 million, respectively, reflected in selling, general and administrative expenses in discontinued operations. Due to lump-sum payments made in 2018 for Apergy participants in the Dover U.S. Pension Plan, non-cash settlement costs of approximately $9.2 million were classified within discontinued operations.

Refer to Note 5 — Discontinued and Disposed Operations in the Consolidated Financial Statements in Item 8 of this Form 10-K for additional information on disposed and discontinued operations.

Restructuring Activities

2018 Restructuring Activities

During the year ended December 31, 2018, we executed several programs in order to further optimize operations. Rightsizing programs in 2018 included 1) alignment of our cost structure in preparation for the Apergy separation, 2) broad-based selling, general and administrative expense reduction initiatives and 3) initiation of footprint consolidation actions. The Company incurred $58.5 million of restructuring charges for the year ended December 31, 2018, including a $22.1 million charge in the fourth quarter of 2018 for rightsizing costs related to the selling, general and administrative expense reduction initiative which began in the third quarter of 2018 and the footprint consolidation initiative which started in the fourth quarter of 2018. The restructuring programs are described below.

- The Engineered Systems segment recorded $21.0 million of restructuring charges related to programs across the segment focused on headcount reductions and manufacturing plant consolidation.

- The Fluids segment recorded $25.7 million of restructuring charges principally related to headcount reductions and manufacturing plant and facility consolidations, focused on achieving long-term footprint optimization.

- The Refrigeration & Food Equipment segment recorded $3.5 million of restructuring charges primarily due to headcount reductions, product exit and manufacturing plant consolidation.

- Corporate recorded $8.2 million of restructuring charges primarily related to headcount reductions.

The Apergy-related rightsizing programs previously announced in the fourth quarter of 2017 were completed in 2018. The third quarter selling, general and administrative rightsizing programs were substantially completed in 2018 with benefits realized in the second half of 2018 and expected into 2019. We commenced footprint consolidation initiatives in late 2018 and expect to continue to incur costs through 2020, with partial benefits beginning in 2019 and extending into 2020 and 2021 due to the long nature of the programs.

2017 Restructuring Activities

The Company incurred $52.3 million of restructuring charges for the year ended December 31, 2017, including the programs described below.

- The Engineered Systems segment recorded $12.1 million of restructuring charges related to programs across the segment focused on headcount reductions and various site and product line moves and exits to lower ongoing operating expenses.

- The Fluids segment recorded $16.3 million of restructuring charges as a result of programs and projects across the segment, principally related to headcount reductions and facility consolidations, principally focused on achieving acquisition integration benefits.

- The Refrigeration & Food Equipment segment recorded restructuring charges of $14.1 million, related to headcount reductions, facility consolidations and product line exits, primarily within its Refrigeration business to improve margin performance.

- Corporate recorded $9.8 million of restructuring charges primarily related to headcount reductions, corporate office consolidation and a shared facility exit in South America.

Restructuring initiatives in 2016 included targeted facility consolidations at certain businesses, headcount reductions and actions taken to optimize the Company's cost structure. We incurred restructuring charges of $25.0 million for the year ended December 31, 2016 relating to such activities. See Note 10 — Restructuring Activities in the Consolidated Financial Statements in Item 8 of this Form 10-K for additional details regarding our recent restructuring activities.

SEGMENT RESULTS OF OPERATIONS

The summary that follows provides a discussion of the results of operations of each of our three reportable operating segments (Engineered Systems, Fluids, and Refrigeration & Food Equipment). Each of these segments is comprised of various product and service offerings that serve multiple end markets. See Note 18 — Segment Information in the Consolidated Financial Statements in Item 8 of this Form 10-K for a reconciliation of segment revenue, earnings and margin to our consolidated revenue, earnings from continuing operations and margin. Segment EBITDA and segment EBITDA margin, which are presented in the segment discussion that follows, are non-GAAP measures and do not purport to be alternatives to operating income as a measure of operating performance. We believe that these measures are useful to investors and other users of our financial information in evaluating ongoing operating profitability as they exclude the depreciation and amortization expense related primarily to capital expenditures and acquisitions that occurred in prior years, as well as in evaluating operating performance in relation to our competitors. For further information, see "Non-GAAP Disclosures" at the end of this Item 7.

Engineered Systems

Our Engineered Systems segment is comprised of two platforms, Printing & Identification and Industrials, and is focused on the design, manufacture and service of critical equipment and components serving the fast-moving consumer goods, digital textile printing, vehicle service, environmental solutions and industrial end markets.

	Years Ended December 31,			% Change	
(dollars in thousands)	2018	2017	2016	2018 vs. 2017	2017 vs. 2016
Revenue:					
Printing & Identification	$ 1,162,431	$ 1,094,015	$ 1,022,502	6.3 %	7.0 %
Industrials	1,580,517	1,573,969	1,424,163	0.4 %	10.5 %
	$ 2,742,948	$ 2,667,984	$ 2,446,665	2.8 %	9.0 %
Segment earnings	$ 451,270	$ 604,484	$ 399,209	(25.3)%	51.4 %
Segment margin	16.5 %	22.7 %	16.3 %		
Segment EBITDA	$ 527,149	$ 689,931	$ 477,382	(23.6)%	44.5 %
Segment EBITDA margin	19.2 %	25.9 %	19.5 %		
Other measures:					
Depreciation and amortization	$ 75,879	$ 85,447	$ 78,173	(11.2)%	9.3 %
Bookings					
Printing & Identification	$ 1,158,537	$ 1,114,340	$ 1,026,453	4.0 %	8.6 %
Industrials	1,751,280	1,624,181	1,418,665	7.8 %	14.5 %
	$ 2,909,817	$ 2,738,521	$ 2,445,118	6.3 %	12.0 %
Backlog					
Printing & Identification	$ 122,028	$ 129,752	$ 98,924	(6.0)%	31.2 %
Industrials	438,546	329,575	266,556	33.1 %	23.6 %
	$ 560,574	$ 459,327	$ 365,480	22.0 %	25.7 %
Components of revenue growth:					
Organic growth				5.8 %	5.9 %
Acquisitions				0.1 %	6.5 %
Dispositions				(4.6)%	(4.2)%
Foreign currency translation				1.5 %	0.8 %
Total revenue growth				2.8 %	9.0 %

2018 Versus 2017

Engineered Systems segment revenue for the year ended December 31, 2018 increased $75.0 million, or 2.8% compared to the prior year, comprised of broad-based organic growth of 5.8% and a favorable impact from foreign currency translation of 1.5%. This increase was partially offset by a 4.6% decrease from the dispositions of PMI in the first quarter of 2017 and the consumer and industrial winch business of Warn in the fourth quarter of 2017. Customer pricing favorably impacted revenue by approximately 1.3% in 2018.

- Printing & Identification revenue (representing 42.4% of segment revenue) increased $68.4 million, or 6.3%, compared to the prior year. The increase is comprised primarily of organic revenue growth of 4.4% and a favorable impact from foreign currency translation of 1.7%. Organic revenue growth was led by strong activity in our digital printing businesses, complemented by growth in our marking and coding businesses.

- Industrials revenue (representing 57.6% of segment revenue) increased $6.5 million, or 0.4%, compared to the prior year. The increase reflects organic revenue growth of 6.8% and a favorable impact of foreign currency translation of 1.3% partially offset by the impact of the PMI and Warn dispositions of 7.6%. Organic revenue growth was broad-based, with particular strength in our environmental solutions, industrial winch, and defense/commercial aerospace businesses.

Engineered Systems segment earnings for the year ended December 31, 2018 decreased $153.2 million, or 25.3%, compared to the prior year. The decline in earnings was impacted by 1) a gain of $205.3 million recognized in 2017 from the sales of PMI and Warn; 2) lost earnings of $25.6 million, offset by disposition costs of $5.2 million, associated with 2017 divestitures; and 3) incremental restructuring costs in 2018 of $9.0 million. Excluding these non-operational, non-recurring items, segment earnings increased by $81.5 million, or 20.8%. This increase was primarily driven by solid conversion on organic volume growth, favorable pricing and productivity initiatives including the benefits of prior year and current year restructuring initiatives, as well as the net benefit of an earn-out reversal recorded in the second quarter of 2018. Partially offsetting this favorable operational performance were increases in material costs, primarily driven by U.S. Section 232 tariffs, most notably commodity cost increases impacting steel, and Section 301 tariffs. Segment margin decreased from 22.7% to 16.5% as compared to the prior year primarily due to the gain from the sales of PMI and Warn, lost earnings and disposition costs from 2017 divested businesses and incremental restructuring costs. Excluding these items, margins increased 188 basis points from 15.3% to 17.2 % from the prior year.

Segment bookings for the year ended December 31, 2018 increased 6.3% compared to the prior year. Bookings for our Industrials platform for the year ended December 31, 2018 increased 7.8%, compared to the prior year, due primarily to organic growth in our environmental solutions and vehicle services businesses, partially offset by divestiture impacts of Warn and PMI. Our Printing & Identification bookings for the year ended December 31, 2018 increased 4.0%, compared to the prior year, driven by strong activity in our marking and coding and digital printing businesses. Segment book-to-bill was 1.06.

2017 Versus 2016

Engineered Systems segment revenue for the year ended December 31, 2017 increased $221.3 million, or 9.0%, compared to the prior year, primarily driven by acquisition-related growth of 6.5% from RAV and Alliance Wireless Technologies ("AWTI") in the fourth quarter 2016 and Caldera in the second quarter of 2017, and broad-based organic growth of 5.9%. This increase was also driven by a favorable impact from foreign currency translation of 0.8%, partially offset by a 4.2% impact from dispositions. Customer pricing favorably impacted revenue by approximately 0.3% in 2017.

- Printing & Identification revenue (representing 41.0% of 2017 segment revenue) increased $71.5 million, or 7.0%, compared to the prior year. Organic revenue of 4.6%, acquisition-related growth of 0.9% from Caldera and a favorable impact from foreign currency translation of 1.5% all contributed to year over year growth. Organic revenue growth was driven by our marking and coding and digital printing businesses.

- Industrials revenue (representing 59.0% of 2017 segment revenue) increased $149.8 million, or 10.5%, compared to the prior year. The increase reflects acquisition-related growth of 10.5% from the RAV and AWTI acquisitions, organic revenue growth of 6.8% and a favorable impact from foreign currency translation of 0.4%. This increase was partially offset by the impact of dispositions of 7.2%. Organic revenue growth was broad-based, with particular strength in our environmental solutions business.

Engineered Systems segment earnings for the year ended December 31, 2017 increased $205.3 million, or 51.4%, compared to the prior year. The increase was primarily driven by $193.4 million of incremental gains on the sale of divested businesses including Warn and PMI in 2017 and THI in 2016, partially offset by $17.3 million of lower earnings due to divested businesses, $8.0 million of incremental restructuring expenses and $5.2 million of Warn divestiture costs. Excluding these items, segment earnings increased $42.2 million or 11.3% compared to the prior year driven by leverage on organic growth in our marking and coding and industrial businesses, partially offset by increases in material costs, most notably steel, and key strategic investments. Segment margin increased from 16.3% to 22.7% as compared to the prior year primarily due to the 2017 gains on dispositions.

Fluids

Our Fluids segment, serving the Fueling & Transport, Pumps, and Process Solutions end markets, is focused on the safe handling of critical fluids, and providing critical components to the retail fueling, chemical, hygienic, oil and gas, power generation and industrial end markets. In the second quarter of 2018, we aligned our financial reporting around these three key end markets to provide more detailed information after the spin-off of the Apergy business.

	Years Ended December 31,			% Change	
(dollars in thousands)	**2018**	**2017**	**2016**	**2018 vs. 2017**	**2017 vs. 2016**
Revenue:					
Fueling & Transport	$ 1,465,590	$ 1,338,062	$ 848,109	9.5 %	57.8 %
Pumps	676,027	618,224	577,048	9.3 %	7.1 %
Process Solutions	655,721	598,779	551,893	9.5 %	8.5 %
Total	$ 2,797,338	$ 2,555,065	$ 1,977,050	9.5 %	29.2 %
Segment earnings	$ 389,804	$ 368,630	$ 246,545	5.7 %	49.5 %
Segment margin	13.9 %	14.4 %	12.5 %		
Segment EBITDA	$ 530,248	$ 504,451	$ 347,811	5.1 %	45.0 %
Segment EBITDA margin	19.0 %	19.7 %	17.6 %		
Other measures:					
Depreciation and amortization	$ 140,444	$ 135,821	$ 101,266	3.4 %	34.1 %
Bookings	2,899,740	2,612,763	1,970,428	11.0 %	32.6 %
Backlog	523,791	459,746	394,399	13.9 %	16.6 %
Components of revenue growth:					
Organic growth				8.7 %	4.0 %
Acquisitions				0.7 %	25.1 %
Dispositions				(0.2)%	— %
Foreign currency translation				0.3 %	0.1 %
Total revenue growth				9.5 %	29.2 %

2018 Versus 2017

Fluids segment revenue for the year ended December 31, 2018 increased $242.3 million, or 9.5%, compared to the prior year, attributable to organic growth of 8.7%, acquisition-related growth of 0.7% and a favorable foreign currency translation impact of 0.3%. This increase was partially offset by a 0.2% decrease from dispositions. The organic growth was principally driven by industrial pump activity and solid biopharma and medical markets, along with continued strength in retail fueling, especially in the Asia Pacific region. Customer pricing favorably impacted revenue by approximately 0.8% in 2018.

- Fueling & Transport revenue (representing 52.4% of segment revenue) increased $127.5 million, or 9.5%, compared to the prior year, primarily driven by continued strong international retail fueling activity, specifically in the Asia Pacific region and improving U.S. based Europay, Mastercard and Visa (EMV) activity. Transport revenue improved over the prior year and the rail business experienced strong growth, in part, due to softer volumes experienced in last year’s second half and the continued rebound of aftermarket volumes.

- Pumps revenue (representing 24.2% of segment revenue) increased $57.8 million, or 9.3%, compared to the prior year. This increase reflects growth in the oil and gas markets in North America. Additionally, strong activity in other industrial markets, specifically biopharma and medical businesses, continue to trend positively.

- Process Solutions revenue (representing 23.4% of segment revenue) increased $56.9 million, or 9.5%, compared to the prior year. This revenue increase was driven by the acquisition of Ettlinger Group ("Ettlinger"), strength in our Asia Pacific markets, continued infrastructure spending by our original equipment manufacturer ("OEM") customers, and polymer plant demand increase.

Fluids segment earnings for the year ended December 31, 2018 increased $21.2 million, or 5.7%, compared to the prior year, primarily driven by our Pumps and Process Solutions end markets. This growth was partially offset by increased material costs due, in part, to U.S. Section 232 and 301 tariff exposure, costs associated with the exit of a minority interest investment, higher restructuring costs and the negative productivity impacts of footprint consolidation and supply chain disruptions in our Fueling & Transport end market. Segment margin decreased 50 basis points primarily due to one-time cost impacts driven by footprint consolidations and temporary supply chain disruptions impacting production. Excluding these items and incremental rightsizing and other impacts, segment earnings increased $64.1 million, or 17.3%, and segment margin increased 100 basis points for the year ended December 31, 2018 compared to the prior year.

Bookings for the year ended December 31, 2018 increased 11.0% compared to the prior year, reflecting organic growth of 7.8%, a favorable impact from foreign currency translation of 2.6%, and acquisition-related growth of 0.8% offset by disposition related decline of 0.2%. Book to bill was 1.04.

2017 Versus 2016

Fluids segment revenue for the year ended December 31, 2017 increased $578.0 million, or 29.2%, compared to the prior year, comprised of acquisition-related growth of 25.1% primarily due to Wayne, organic revenue growth of 4.0% and a favorable foreign currency translation impact of 0.1%. Customer pricing did not have a significant impact to revenue in 2017.

- Fueling & Transport revenue (representing 52.4% of 2017 segment revenue) increased $490.0 million, or 57.8%, compared to the prior year. The increase was primarily driven by acquisition-related growth from Wayne, and improving European and Asian retail fueling markets, partially offset by weak transport markets.

- Pumps revenue (representing 24.2% of 2017 segment revenue) increased $41.2 million, or 7.1%, compared to the prior year, largely reflecting increased industrial demand and biopharma and medical businesses growth in North America and Asia.

- Process Solutions revenue (representing 23.4% of 2017 segment revenue) increased $46.9 million, or 8.5%, compared to the prior year. This revenue increase was primarily driven by new product development, and solid market activity relating to infrastructure spending by our OEM customers and polymer plant demand increase.

Fluids segment earnings for the year ended December 31, 2017 increased $122.1 million, or 49.5%, compared to the prior year, primarily driven by volume growth, including acquisitions, productivity gains and the benefits of the retail fueling integration. Segment year over year earnings also includes a benefit from a reduction of $7.2 million to a voluntary product recall accrual compared to a $23.2 million charge in 2016. Segment margin increased overall by 190 basis points.

Refrigeration & Food Equipment

Our Refrigeration & Food Equipment segment is a provider of innovative and energy efficient equipment and systems serving the commercial refrigeration and food equipment end markets.

	Years Ended December 31,			% Change	
(dollars in thousands)	2018	2017	2016	2018 vs. 2017	2017 vs. 2016
Revenue:					
Refrigeration	$ 1,197,072	$ 1,305,530	$ 1,261,633	(8.3)%	3.5 %
Food Equipment	256,021	293,575	358,706	(12.8)%	(18.2)%
Total	$ 1,453,093	$ 1,599,105	$ 1,620,339	(9.1)%	(1.3)%
Segment earnings	$ 136,119	$ 193,822	$ 283,628	(29.8)%	(31.7)%
Segment margin	9.4 %	12.1 %	17.5 %		
Segment EBITDA	$ 196,596	$ 251,029	$ 348,646	(21.7)%	(28.0)%
Segment EBITDA margin	13.5 %	15.7 %	21.5 %		
Other measures:					
Depreciation and amortization	$ 60,477	$ 57,207	$ 65,018	5.7 %	(12.0)%
Bookings	1,474,717	1,582,606	1,645,807	(6.8)%	(3.8)%
Backlog	268,991	244,972	258,329	9.8 %	(5.2)%
Components of revenue decline:					
Organic (decline) growth				(7.9)%	3.4 %
Acquisitions				0.7 %	— %
Dispositions				(2.6)%	(5.1)%
Foreign currency translation				0.7 %	0.4 %
Total revenue decline				(9.1)%	(1.3)%

2018 Versus 2017

Refrigeration & Food Equipment segment revenue for the year ended December 31, 2018 decreased $146.0 million, or 9.1%, compared to the prior year, reflecting an organic revenue decline of 7.9%, the impact from product line dispositions of 2.6%, partially offset by acquisition-related growth of 0.7% and a favorable impact from foreign currency translation of 0.7%. Customer pricing favorably impacted revenue by approximately 0.8% in 2018.

- Refrigeration revenue (representing 82.4% of segment revenue) decreased $108.5 million, or 8.3%, compared to the prior year, principally driven by weak capital spending and deferred remodel programs by key U.S. retail refrigeration customers, as well as certain product line exits. The retail refrigeration shortfall was partially offset by increased demand for heat exchanger products, most notably in Europe.

- Food Equipment revenue (representing 17.6% of segment revenue) decreased $37.6 million, or 12.8%, compared to the prior year, due to project timing and market softness in our can shaping equipment and foodservice equipment businesses, partially offset by the addition of sales from our Rosario acquisition.

Refrigeration & Food Equipment segment earnings for the year ended December 31, 2018 decreased $57.7 million, or 29.8%, compared to the prior year. Segment margin decreased to 9.4% from 12.1% in the prior year, as benefits from rightsizing and other restructuring actions, productivity gains and lower restructuring costs were more than offset by volume reductions, unfavorable product mix in our can shaping business, costs associated with product re-design and SKU rationalization in our refrigeration door system product line and a favorable $1.7 million one-time disposition gain in 2017 due to a working capital adjustment. Segment margin was also impacted by rising material costs, most notably steel, inclusive of commodity pricing impacts attributable to U.S. Section 232 tariffs.

Bookings for the year ended December 31, 2018 decreased 6.8% compared to the prior year, primarily driven by weak retail refrigeration markets and the impact of dispositions. Organically, bookings decreased 5.6%. Ending backlog was 9.8% higher than prior year, driven by fourth quarter bookings growth in our retail refrigeration and can shaping equipment businesses. Book to bill was 1.01.

2017 Versus 2016

Refrigeration & Food Equipment segment revenue for the year ended December 31, 2017 decreased $21.2 million, or 1.3%, compared to the prior year, primarily driven by a 5.1% decline due to dispositions, offset, in part, by organic revenue growth of 3.4% and a favorable impact from foreign currency translation of 0.4%. Customer pricing favorably impacted revenue by approximately 1.7% in 2017.

- Refrigeration revenue (representing 81.6% of 2017 segment revenue) increased $43.9 million, or 3.5%, compared to the prior year, primarily driven by growth in CO2 and industrial refrigeration systems as well as strong demand for heat exchanger products, especially in Asia.

- Food Equipment revenue (representing 18.4% of 2017 segment revenue) decreased $65.1 million, or 18.2%, compared to the prior year, primarily due to the disposition of Tipper Tie in the fourth quarter of 2016. Excluding divestitures, revenues increased $17.2 million, or 6.2%, compared to prior year driven by strong shipments in can-shaping equipment.

Refrigeration & Food Equipment segment earnings for the year ended December 31, 2017 decreased $89.8 million, or 31.7%, compared to the prior year, primarily related to the $85.0 million gain on sale of Tipper Tie in 2016 as well as $10.1 million of lower earnings in 2017 due to the divestiture, an increase of $13.1 million of restructuring expenses in 2017 compared to the prior year, and a $4.0 million loss on sale of a non-US business in 2017. Segment margin decreased 540 basis points to 12.1% primarily driven by the aforementioned gain on sale of Tipper Tie in 2016 and increase in restructuring expenses. Excluding the impact of dispositions and restructuring, segment earnings increased $20.8 million, or 11.0%, and segment margins increased 80 basis points reflecting increased organic volume and improved productivity which more than offset increased materials cost, most notably steel.

FINANCIAL CONDITION

We assess our liquidity in terms of our ability to generate cash to fund our operating, investing and financing activities. Significant factors affecting liquidity are: cash flows generated from operating activities, capital expenditures, acquisitions, dispositions, dividends, repurchase of outstanding shares, adequacy of available commercial paper and bank lines of credit and the ability to attract long-term capital with satisfactory terms. We generate substantial cash from the operations of our businesses and remain in a strong financial position, with sufficient liquidity available for reinvestment in existing businesses and strategic acquisitions.

Cash Flow Summary

The following table is derived from our Consolidated Statements of Cash Flows:

	Years Ended December 31,		
Cash Flows from Continuing Operations *(in thousands)*	**2018**	**2017**	**2016**
Net cash flows provided by (used in):			
Operating activities	$ 789,193	$ 739,409	$ 734,596
Investing activities	(245,480)	208,335	(1,480,742)
Financing activities	(897,838)	(592,933)	634,336

Operating Activities

Cash provided by operating activities for the year ended December 31, 2018 increased $49.8 million compared to 2017. This increase was driven primarily by higher continuing earnings of $46.9 million, excluding non-cash activity from depreciation and amortization and gain on sale of businesses, and significantly lower tax payments in the current year due to a lower tax rate in 2018 as well as tax payments made in the prior year for dispositions. The increase was offset by higher investments in working capital relative to the prior year in support of organic bookings and timing of year end revenue.

Cash provided by operating activities for the year ended December 31, 2017 increased $4.8 million compared to 2016. This increase was primarily driven by higher continuing earnings of $171.6 million, excluding non-cash activity from depreciation and amortization and gain on sale of businesses. The increase was largely offset by timing of year end revenue and increased tax payments of $167.6 million, which includes $69.0 million of federal and state tax payments for dispositions.

Pension and Other Post-Retirement Activity: Total cash used in conjunction with pension plans during 2018 was $25.9 million including contributions to our international pension plans and payments of benefits under our non-qualified supplemental pension plan.

The funded status of our U.S. qualified defined benefit pension plans is dependent upon many factors, including returns on invested assets, the level of market interest rates and the level of funding. We contribute cash to our plans at our discretion, subject to applicable regulations and minimum contribution requirements. Due to the overfunded status of this plan, the Company did not make contributions in 2018, 2017 or 2016 and expects to make minimal contributions, if any, in the near term.

Our international pension obligations are located in regions where it is not economically advantageous to pre-fund the plans due to local regulations. Total cash contributions to ongoing international defined benefit pension plans in 2018, 2017 and 2016 totaled $6.0 million, $8.0 million and $8.4 million, respectively. In 2019, we expect to contribute approximately $5.4 million to our non-U.S. plans. Our non-qualified supplemental pension plans are funded through Company assets as benefits are paid. In 2018, a total of $19.4 million in benefits were paid under these plans. See Note 16 — Employee Benefit Plans in the Consolidated Financial Statements in Item 8 of this Form 10-K for further discussion regarding our post-retirement plans.

Adjusted Working Capital: We believe adjusted working capital (a non-GAAP measure calculated as accounts receivable, plus inventory, less accounts payable) provides a meaningful measure of our operational results by showing changes caused solely by revenue.

Adjusted Working Capital *(dollars in thousands)*		**December 31, 2018**		**December 31, 2017**
Accounts receivable	$	1,231,859	$	1,183,514
Inventories		748,796		677,043
Less: Accounts payable		969,531		882,007
Adjusted working capital	$	1,011,124	$	978,550

Adjusted working capital increased from December 31, 2017 by $32.6 million, or 3.3%, to $1.0 billion at December 31, 2018, which reflected an increase in receivables of $48.3 million, an increase in inventory of $71.8 million and an increase in accounts payable of $87.5 million. Excluding acquisitions, dispositions and the effects of foreign currency translation, adjusted working capital increased by $66.1 million, or 6.8%, and decreased $51.2 million, or 4.9%, for the years ended December 31, 2018 and 2017, respectively.

Investing Activities

Cash flow from investing activities is derived from cash inflows from proceeds from sales of businesses, property, plant and equipment and short-term investments, partially offset by cash outflows for capital expenditures and acquisitions. The majority of the activity in investing activities was comprised of the following:

- *Acquisitions:* In 2018, we deployed $68.6 million to acquire two businesses. In comparison, we acquired two businesses in 2017 for an aggregate purchase price of approximately $27.2 million. Total acquisition spend in 2016 was $1,561.7 million and was comprised of six businesses. See Note 4 — Acquisitions in the Consolidated Financial Statements in Item 8 of this Form 10-K for additional information with respect to recent acquisitions.

- *Proceeds from sale of businesses:* In 2018, we generated cash proceeds of $3.9 million, primarily due to cash received on a sale in the prior year. Cash proceeds of $372.7 million in 2017 were primarily from the sale of PMI and Warn. In 2016, we generated cash proceeds of $206.4 million primarily from the sale of THI and Tipper Tie.

- *Capital spending:* Capital expenditures, primarily to support productivity and new product launches, were $171.0 million in 2018, $170.1 million in 2017 and $139.6 million in 2016. Our capital expenditures remained relatively flat in 2018 compared to 2017, but increased $30.5 million in 2017 compared to 2016, primarily within Fluids.

We anticipate that capital expenditures and any additional acquisitions we make in 2019 will be funded from available cash and internally generated funds and, if necessary, through the issuance of commercial paper, or by accessing the public debt or equity markets.

Financing Activities

Our cash flow from financing activities generally relates to the use of cash for purchases of our common stock and payment of dividends, offset by net borrowing activity and proceeds from the exercise of share-based awards. The majority of financing activity was attributed to the following:

- *Cash received from Apergy, net of cash distributed*: In connection with the separation of Apergy from Dover, Apergy incurred borrowings to fund a one-time cash payment of $700.0 million to Dover in connection with Dover's contribution to Apergy of stock and assets relating to the businesses spun off with Apergy. Dover received net cash of $689.6 million upon separation, which reflects $10.4 million of cash held by Apergy at the time of distribution and retained by it in in connection with its separation from Dover.

- *Repurchase of common stock, including prepayment under an accelerated share repurchase program:* During the year ended December 31, 2018, we used $45.0 million to repurchase 440,608 shares under our January 2015 authorization, which expired on January 9, 2018. Under a new share repurchase authorization adopted by the Board of Directors in February 2018, we repurchased 1,753,768 shares of common stock at a total cost of $150.0 million and used $700 million to repurchase a total of 8,542,566 shares through an accelerated share repurchase transaction which concluded in December 2018. We funded the accelerated share repurchase primarily with funds received from Apergy in connection with the consummation of the Apergy spin-off. For the year ended December 31, 2017, we used $105.0 million to repurchase 1,059,682 shares under the January 2015 authorization.

- *Long-term debt, commercial paper and notes payable, net:* During 2018, we repaid the Company's $350.0 million 5.45% notes, which matured on March 15, 2018, and decreased net borrowings from commercial paper by $10.7 million. During the 2017 period, we decreased net borrowings from commercial paper by $182.6 million with the cash proceeds from the sale of PMI and Warn. During 2016, we increased net borrowings from commercial paper by $254.8 million, primarily for purposes of funding acquisitions. Additionally, in November 2016, we issued €600.0 million of 1.25% euro-denominated notes due in 2026. The proceeds of $656.4 million from this issuance, net of discounts and issuance costs, were primarily used for payment of a portion of the purchase price for the acquisition of Wayne.

- *Dividend payments:* Total dividend payments to common shareholders were $283.6 million in 2018, $284.0 million in 2017 and $267.7 million in 2016. Our dividends paid per common share increased 4% to $1.90 per share in 2018 compared to $1.82 per share in 2017, which represents the 63rd consecutive year that our dividend has increased. The number of common shares outstanding decreased from 2017 to 2018 due to our share repurchase programs.

- *Net Proceeds from the exercise of share-based awards:* There were no proceeds from the exercise of share-based awards in 2018 and 2017. With the adoption of Accounting Standards Update 2016-09, Compensation - Stock Compensation (Topic 718), beginning January 1, 2017 this activity is reflected in operating activities for the years ended December 31, 2018 and 2017, and we have elected to reflect this cash flow presentation prospectively. Proceeds from the exercise of share-based awards were $8.4 million in 2016. Payments to settle tax obligations on share exercises were $46.3 million, $18.4 million and $15.7 million in 2018, 2017 and 2016, respectively. These tax payments generally increase or decrease correspondingly to the number of exercises in a particular year.

Cash Flows from Discontinued Operations

Our cash flows from discontinued operations for the years ended December 31, 2018, 2017 and 2016 (used) generated $(14.3) million, $48.5 million and $103.5 million, respectively. These cash flows primarily reflect the operating results of Apergy prior to its separation during the second quarter of 2018. Cash flows used in discontinued operations for the year ended December 31, 2018 primarily reflects cash payments of spin-off costs of $46.4 million and capital expenditures of $23.7 million, partially offset by cash provided by operations of approximately $55.4 million. Cash flows generated for the years ended December 31, 2017 and 2016 primarily reflects cash provided by operating activities of approximately $96.2 million and $128.3 million, respectively, partially offset by capital expenditures.

Liquidity and Capital Resources

Free Cash Flow

In addition to measuring our cash flow generation and usage based upon the operating, investing and financing classifications included in the Consolidated Statements of Cash Flows, we also measure free cash flow (a non-GAAP measure) which represents net cash provided by operating activities minus capital expenditures. We believe that free cash flow is an important measure of operating performance because it provides management and investors a measurement of cash generated from operations that is available for mandatory payment obligations and investment opportunities, such as funding acquisitions, paying dividends, repaying debt and repurchasing our common stock.

The following table reconciles our free cash flow to cash flow provided by operating activities:

	Years Ended December 31,		
Free Cash Flow *(dollars in thousands)*	**2018**	**2017**	**2016**
Cash flow provided by operating activities	$ 789,193	$ 739,409	$ 734,596
Less: Capital expenditures	(170,994)	(170,068)	(139,578)
Free cash flow	$ 618,199	$ 569,341	$ 595,018
Free cash flow as a percentage of revenue	8.8 %	8.3 %	9.8 %

For 2018, we generated free cash flow of $618.2 million, representing 8.8% of revenue. Free cash flow in 2017 was $569.3 million or 8.3% of revenue, and $595.0 million, or 9.8% of revenue in 2016. The full year increase in 2018 free cash flow reflects higher cash flow provided by operations due to higher operating earnings, as previously mentioned. However, the 2018 free cash flow includes cash payments related to restructuring initiatives of $52.0 million, whereas the restructuring payments were $22.6 million in 2017. The 2017 decrease in free cash flow compared to 2016 reflects higher capital expenditures, primarily within our Fluids segment.

Capitalization

We use commercial paper borrowings for general corporate purposes, including the funding of acquisitions and the repurchase of our common stock. We maintain a $1.0 billion five-year unsecured committed revolving credit facility (the "Credit Agreement") with a syndicate of banks which expires on November 10, 2020. This facility is used primarily as liquidity back-up for our commercial paper program. We have not drawn down any loans under this facility nor do we anticipate doing so. If we were to draw down a loan, at our election, the loan would bear interest at a base rate plus an applicable margin. Under this facility, we are required to pay a facility fee and to maintain an interest coverage ratio of consolidated EBITDA to consolidated net interest expense of not less than 3.0 to 1. We were in compliance with this covenant and our other long-term debt covenants at December 31, 2018 and had a coverage ratio of 9.6 to 1.0. We are not aware of any potential impairment to our liquidity and expect to remain in compliance with all of our debt covenants.

On March 15, 2018, the outstanding 5.45% notes with a principal value of $350.0 million matured. The repayment of debt was funded by the Company's commercial paper program and through a reduction of existing cash balances.

We also have a current shelf registration statement filed with the SEC that allows for the issuance of additional debt securities that may be utilized in one or more offerings on terms to be determined at the time of the offering. Net proceeds of any offering would be used for general corporate purposes, including repayment of existing indebtedness, capital expenditures and acquisitions.

At December 31, 2018, our cash and cash equivalents totaled $396.2 million, of which approximately $247.5 million was held outside the United States. At December 31, 2017, our cash and cash equivalents totaled $754.0 million, of which $609.8 million was held outside the United States. The reduction in cash held outside the United States was primarily the result of repatriating $534.4 million to the United States during the year ended December 31, 2018. Cash and cash equivalents are held primarily in bank deposits with highly rated banks. We regularly hold cash in excess of near-term requirements in bank deposits or invest the funds in government money market instruments or short-term investments, which consist of investment grade time deposits with original maturity dates at the time of purchase of no greater than three months.

We utilize the net debt to net capitalization calculation (a non-GAAP measure) to assess our overall financial leverage and capacity and believe the calculation is useful to investors for the same reason. Net debt represents total debt minus cash and cash equivalents. Net capitalization represents net debt plus stockholders' equity. The following table provides a reconciliation of net debt to net capitalization to the most directly comparable GAAP measures:

Net Debt to Net Capitalization Ratio *(dollars in thousands)*	**December 31, 2018**	**December 31, 2017**	**December 31, 2016**
Current maturities of long-term debt	$ —	$ 350,402	$ 6,950
Commercial paper	220,318	230,700	407,600
Notes payable and current maturities of long-term debt	220,318	581,102	414,550
Long-term debt	2,943,660	2,986,702	3,206,637
Total debt	3,163,978	3,567,804	3,621,187
Less: Cash and cash equivalents	(396,221)	(753,964)	(349,146)
Net debt	2,767,757	2,813,840	3,272,041
Add: Stockholders' equity	2,768,666	4,383,180	3,799,746
Net capitalization	$ 5,536,423	$ 7,197,020	$ 7,071,787
Net debt to net capitalization	50.0 %	39.1 %	46.3 %

Our net debt to net capitalization ratio increased to 50.0% at December 31, 2018 compared to 39.1% at December 31, 2017. The increase in this ratio was driven primarily by the reduction of our net capitalization of $1.7 billion for the period primarily due to the reduction in stockholders' equity as a result of the $906.8 million distribution of Apergy, $895.0 million in share repurchases and $283.6 million of dividends paid, offset by $570.3 million of current earnings. Net debt decreased $46.1 million during the period primarily due to a reduction in current maturities of long term debt as a result of the repayment of $350.0 million note on March 15, 2018, partially offset by a reduction in cash levels to fund dividends and other operating purposes.

Our net debt to net capitalization ratio decreased to 39.1% at December 31, 2017 compared to 46.3% at December 31, 2016 primarily due to changes in net debt during the period. Net debt decreased $458.2 million as a result of $404.8 million higher cash and cash equivalents. The decrease was also impacted by the repayment of commercial paper partially offset by foreign currency translation on our euro-denominated notes.

Our ability to obtain debt financing at comparable risk-based interest rates is partly a function of our existing cash-flow-to-debt and debt-to-capitalization levels as well as our current credit standing. Our credit ratings, which are independently developed by the respective rating agencies, were as follows as of December 31, 2018:

	Short Term Rating	**Long Term Rating**	**Outlook**
Moody's	P-2	Baa1	Stable
Standard & Poor's	A-2	BBB+	Stable

Operating cash flow and access to capital markets are expected to satisfy our various cash flow requirements, including acquisitions and capital expenditures. Acquisition spending and/or share repurchases could potentially increase our debt.

We believe that existing sources of liquidity are adequate to meet anticipated funding needs at current risk-based interest rates for the foreseeable future.

Off-Balance Sheet Arrangements and Contractual Obligations

As of December 31, 2018, we had approximately $144.5 million outstanding in letters of credit with financial institutions, which expire on various dates in 2019 through 2028. These letters of credit are primarily maintained as security for insurance, warranty and other performance obligations. In general, we would only be liable for the amount of these guarantees in the event of default in the performance of our obligations, the probability of which we believe is remote.

We have also provided typical indemnities in connection with sales of certain businesses and assets, including representations and warranties and related indemnities for environmental, health and safety, tax and employment matters. We do not have any material liabilities recorded for these indemnifications and are not aware of any claims or other information that would give rise to material payments under such indemnities.

A summary of our consolidated contractual obligations and commitments as of December 31, 2018 and the years when these obligations are expected to be due is as follows:

		Payments Due by Period				
(in thousands)	Total	Less than 1 Year	1-3 Years	3-5 Years	More than 5 Years	Other
Long-term debt [1]	$ 2,943,660	$ —	$ 789,569	$ —	$ 2,154,091	$ —
Interest payments [2]	1,364,672	112,439	207,967	171,704	872,562	—
Rental commitments	194,873	49,009	68,016	35,761	42,087	—
Purchase obligations	62,045	61,747	289	9	—	—
Capital leases	11,383	1,802	3,435	6,146	—	—
Supplemental and post-retirement benefits [3]	89,073	15,722	21,582	18,168	33,601	—
Income tax payable - deemed repatriation tax [4]	54,304	1,875	8,056	44,373	—	—
Unrecognized tax benefits [5]	112,299	—	—	—	—	112,299
Total obligations	$ 4,832,309	$ 242,594	$ 1,098,914	$ 276,161	$ 3,102,341	$ 112,299

(1) See Note 11 — Borrowings and Lines of Credit to the Consolidated Financial Statements. Amounts represent principal payments for all long-term debt, including current maturities, net of unamortized discounts and deferred issuance costs.

(2) Amounts represent estimate of future interest payments on long-term debt using the interest rates in effect at December 31, 2018.

(3) Amounts represent estimated benefit payments under our unfunded supplemental and post-retirement benefit plans and our unfunded non-U.S. qualified defined benefit plans. See Note 16 — Employee Benefit Plans to the Consolidated Financial Statements. We also expect to contribute approximately $5.4 million to our non-U.S. qualified defined benefit plans in 2019, which amount is not reflected in the above table.

(4) Amounts represent a tax imposed by the Tax Reform Act for a one-time deemed repatriation of unremitted earnings of foreign subsidiaries, including current payable.

(5) Due to the uncertainty of the potential settlement of future unrecognized tax benefits, we are unable to estimate the timing of the related payments, if any, that will be made subsequent to 2018. These amounts do not include the potential indirect benefits resulting from deductions or credits for payments made to other jurisdictions.

Financial Instruments and Risk Management

The diverse nature of our businesses' activities necessitates the management of various financial and market risks, including those related to changes in interest rates, foreign currency exchange rates and commodity prices. We periodically use derivative financial instruments to manage some of these risks. We do not hold or issue derivative instruments for trading or speculative purposes. We are exposed to credit loss in the event of nonperformance by counterparties to our financial instrument contracts; however, nonperformance by these counterparties is considered unlikely as our policy is to contract with highly-rated, diversified counterparties.

Interest Rate Exposure

As of December 31, 2018 and during the three year period then ended, we did not have any open interest rate swap contracts. However, we may in the future enter into interest rate swap agreements to manage our exposure to interest rate changes. We issue commercial paper, which exposes us to changes in variable interest rates; however, maturities are typically three months or less so a change in rates over this period would not have a material impact on our pre-tax earnings.

We consider our current risk related to market fluctuations in interest rates to be minimal since our debt is largely long-term and fixed-rate in nature. Generally, the fair market value of fixed-interest rate debt will increase as interest rates fall and decrease as interest rates rise. A 100 basis point increase in market interest rates would decrease the 2018 year-end fair value of our long-term debt by approximately $781.4 million. However, since we have no plans to repurchase our outstanding fixed-rate instruments before their maturities, the impact of market interest rate fluctuations on our long-term debt does not affect our results of operations or financial position.

Foreign Currency Exposure

We conduct business in various non-U.S. countries, including Canada, substantially all of the European countries, Mexico, Brazil, Argentina, China, India and other Asian countries. Therefore, we have foreign currency risk relating to receipts from customers, payments to suppliers and intercompany transactions denominated in foreign currencies. We will occasionally use derivative financial instruments to offset such risks, when it is believed that the exposure will not be limited by our normal operating and financing activities. We have formal policies to mitigate risk in this area by using fair value and/or cash flow hedging programs.

Changes in the value of the currencies of the countries in which we operate affect our results of operations, financial position and cash flows when translated into U.S. dollars, our reporting currency. The strengthening of the U.S. dollar could result in unfavorable translation effects as the results of foreign operations are translated into U.S. dollars. We have generally accepted the exposure to exchange rate movements relative to our investment in non-U.S. operations. We may, from time to time, for a specific exposure, enter into fair value hedges.

Additionally, the Company has designated the €300 million and €600 million of euro-denominated notes issued December 4, 2013 and November 9, 2016, respectively, as a hedge of a portion of its net investment in euro-denominated operations. Due to the high degree of effectiveness between the hedging instruments and the exposure being hedged, fluctuations in the value of the euro-denominated debt due to exchange rate changes are offset by changes in the net investment. Accordingly, changes in the value of the euro-denominated debt are recognized in the cumulative translation adjustment section of other comprehensive income (loss) to offset changes in the value of the net investment in euro-denominated operations. Due to the fluctuations of the euro relative to the U.S. dollar, the U.S. dollar equivalent of this debt increases or decreases, resulting in the recognition of a gain of $45.2 million and a loss of $125.3 million in other comprehensive income for the years ended December 31, 2018 and 2017, respectively.

Commodity Price Exposure

Certain of our businesses are exposed to volatility in the prices of certain commodities, such as aluminum, steel, copper and various precious metals, among others. Our primary exposure to commodity pricing volatility relates to the use of these materials in purchased component parts or the purchase of raw materials. When possible, we maintain long-term fixed price contracts on raw materials and component parts; however, we are prone to exposure as these contracts expire. We may, from time to time, for a specific exposure, enter into cash flow hedges to mitigate our risk to commodity pricing; however, such contracts outstanding at December 31, 2018 were not significant.

Critical Accounting Policies and Estimates

Our consolidated financial statements and related public financial information are based on the application of GAAP. GAAP requires the use of estimates, assumptions, judgments and subjective interpretations of accounting principles that have an impact on the assets, liabilities, revenue and expense amounts we report. These estimates can also affect supplemental information contained in our public disclosures, including information regarding contingencies, risk and our financial condition. The significant accounting policies used in the preparation of our consolidated financial statements are discussed in Note 1 — Description of Business and Summary of Significant Accounting Policies in the Consolidated Financial Statements in Item 8 of this Form 10-K. The accounting assumptions and estimates discussed in the section below are those that we consider most critical to an understanding of our financial statements because they inherently involve significant judgments and estimates. We believe our use of estimates and underlying accounting assumptions conforms to GAAP and is consistently applied. We review valuations based on estimates for reasonableness on a consistent basis.

Revenue Recognition - Effective January 1, 2018, we adopted Accounting Standard Codification ("ASC") Topic 606, Revenue from Contracts with Customers ("Topic 606" or "ASC 606"). Under Topic 606, a contract with a customer is an agreement which both parties have approved, that creates enforceable rights and obligations, has commercial substance and where payment terms are identified and collectability is probable. Once we enter a contract, it is evaluated to identify performance obligations. For each performance obligation, revenue is recognized as control of promised goods or services transfers to the customer in an amount that reflects the consideration we expect to receive in exchange for those goods or services. The amount of revenue recognized takes into account variable consideration, such as discounts and volume rebates. The majority of our revenue is generated through the manufacture and sale of a broad range of specialized products and components, with revenue recognized upon transfer of title and risk of loss, which is generally upon shipment. Service revenue represents less than 5% of our total revenue and is recognized as the services are performed. In limited cases, our revenue arrangements with customers require delivery, installation, testing, certification, or other acceptance provisions to be satisfied before revenue is recognized. We include shipping costs billed to customers in revenue and the related shipping costs in cost of goods and services.

Inventories - Inventories for the majority of our subsidiaries, including all international subsidiaries, are stated at the lower of cost, determined on the first-in, first-out (FIFO) basis, or net realizable value. Other domestic inventories are stated at cost, determined on the last-in, first-out (LIFO) basis, which is less than market value. Under certain market conditions, estimates and judgments regarding the valuation of inventories are employed by us to properly value inventories.

Goodwill and Other Intangible Assets - We have significant goodwill and intangible assets on our consolidated balance sheets as a result of current and past acquisitions. The valuation and classification of these assets and the assignment of useful lives involve significant judgments and the use of estimates. In addition, the testing of goodwill and intangibles for impairment requires significant use of judgment and assumptions, particularly as it relates to the determination of fair market value. Our indefinite-lived intangible assets and reporting units are tested and reviewed for impairment on an annual basis during the fourth quarter, or more frequently when indicators of impairment exist.

When performing an impairment test, we estimate fair value using the income-based valuation method. Under the income-based valuation method, fair value is determined based on the present value of estimated future cash flows, discounted at an appropriate risk-adjusted rate. We use our internal forecasts to estimate future cash flows and include an estimate of long-term future growth rate based on our most recent views of the long-term outlook for each reporting unit. Actual results may differ from these estimates. The discount rates used in these analyses vary by reporting unit and are based on a capital asset pricing model and published relevant industry rates. We use discount rates commensurate with the risks and uncertainties inherent to each reporting unit and in our internally developed forecasts. Discount rates used in our 2018 reporting unit valuations ranged from 8.5% to 9.5%.

We performed the annual goodwill impairment testing of our seven identified reporting units in the fourth quarter of 2018. Based on the impairment tests performed, the fair value of each of our reporting units exceeded their carrying values by more than 150%. As such, no goodwill impairment was recognized. While we believe the assumptions used in the 2018 impairment analysis are reasonable and representative of expected results, if market conditions worsen or persist for an extended period of time, an impairment of goodwill or assets may occur. We will continue to monitor the long-term outlook and forecasts, including estimated future cash flows, for these businesses and the impact on the carrying value of goodwill and assets.

Employee Benefit Plans - The valuation of our pension and other post-retirement plans requires the use of assumptions and estimates that are used to develop actuarial valuations of expenses and assets/liabilities. Inherent in these valuations are key assumptions, including discount rates, investment returns, projected salary increases and benefits and mortality rates. Annually, we review the actuarial assumptions used in our pension reporting and compare them with external benchmarks to ensure that they accurately account for our future pension obligations. Changes in assumptions and future investment returns could potentially have a material impact on our pension expense and related funding requirements. Our expected long-term rate of return on plan assets is reviewed annually based on actual returns, economic trends and portfolio allocation. Our discount rate assumption is determined by developing a yield curve based on high quality corporate bonds with maturities matching the plans' expected benefit payment streams. The plans' expected cash flows are then discounted by the resulting year-by-year spot rates. As disclosed in Note 16 — Employee Benefit Plans to the Consolidated Financial Statements, the 2018 weighted-average discount rates used to measure our qualified defined benefit obligations ranged from 1.83% to 4.35%, a general increase from the 2017 rates, which ranged from 1.94% to 3.65%. The higher 2018 discount rates in the U.S. are reflective of increased market interest rates over this period. A 25 basis point decrease in the discount rates used for these plans would have increased the post-retirement benefit obligations by approximately $27.9 million from the amount recorded in the consolidated financial statements at December 31, 2018. Our pension expense is also sensitive to changes in the expected long-term rate of return on plan assets. A decrease of 25 basis points in the expected long-term rate of return on assets would have increased our defined benefit pension expense by approximately $1.4 million.

Income Taxes - We have significant amounts of deferred tax assets that are reviewed for recoverability and valued accordingly. These assets are evaluated by using estimates of future taxable income streams and the impact of tax planning strategies. Reserves are also estimated, using more likely than not criteria, for ongoing audits regarding federal, state and international issues that are currently unresolved. We routinely monitor the potential impact of these situations and believe that we have established the proper reserves. Reserves related to tax accruals and valuations related to deferred tax assets can be impacted by changes in tax codes and rulings (as further described below with respect to U.S. tax law), changes in statutory tax rates and our future taxable income levels. The provision for uncertain tax positions provides a recognition threshold and measurement attribute for financial statement tax benefits taken or expected to be taken in a tax return and disclosure requirements regarding uncertainties in income tax positions. The tax position is measured at the largest amount of benefit that is greater than 50 percent likely of being realized upon ultimate settlement. We record interest and penalties related to unrecognized tax benefits as a component of our provision for income taxes.

On December 22, 2017, the Tax Reform Act was enacted which permanently reduced the U.S. corporate income tax rate from a maximum of 35% to a flat 21% rate, effective January 1, 2018. As a result of the reduction in the U.S. corporate income tax rate, we revalued our ending net deferred tax liabilities as of December 31, 2017 and recognized a provisional tax benefit of $172.0 million. The Tax Reform Act also imposed a tax for a one-time deemed repatriation of post-1986 unremitted foreign earnings and profit through the year ended December 31, 2017. For the year ended December 31, 2017, we recorded provisional tax expense related to the deemed repatriation of $111.6 million payable over eight years.

On December 22, 2017, the SEC staff issued SAB 118 to address the application of U.S. GAAP in situations when a registrant does not have the necessary information available, prepared, or analyzed (including computations) in reasonable detail to complete the accounting for certain income tax effects of the Tax Reform Act. In accordance with the SAB 118 guidance, we recognized the provisional tax impacts related to deemed repatriated earnings and the benefit for the revaluation of deferred tax assets and liabilities in its consolidated financial statements for the year ended December 31, 2017. In accordance with SAB 118, we finalized the financial reporting impact of the Tax Reform Act in the fourth quarter of 2018. For the year ended December 31, 2018, we recorded a $4.2 million net tax benefit, which resulted in a 0.6% decrease in the effective tax rate, as an adjustment to the provisional estimates as a result of additional regulatory guidance and changes in interpretations and assumptions we made as a result of the Tax Reform Act.

Risk, Retention, Insurance - We have significant accruals and reserves related to the self-insured portion of our risk management program. These accruals require the use of estimates and judgment with regard to risk exposure and ultimate liability. We estimate losses under these programs using actuarial assumptions, our experience and relevant industry data. We review these factors quarterly and consider the current level of accruals and reserves adequate relative to current market conditions and experience.

Contingencies - We have established liabilities for environmental and legal contingencies at both the business and corporate levels. A significant amount of judgment and the use of estimates are required to quantify our ultimate exposure in these matters. The valuation of liabilities for these contingencies is reviewed on a quarterly basis to ensure that we have accrued the proper level of expense. The liability balances are adjusted to account for changes in circumstances for ongoing issues and the establishment of additional liabilities for emerging issues. While we believe that the amount accrued to-date is adequate, future changes in circumstances could impact these determinations.

Restructuring - We establish liabilities for restructuring activities at an operation when management has committed to an exit or reorganization plan and when termination benefits are probable and can be reasonably estimated based on circumstances at the time the restructuring plan is approved by management or when termination benefits are communicated. Exit costs include future minimum lease payments on vacated facilities and other contractual terminations. In addition, asset impairments may be recorded as a result of an approved restructuring plan. The accrual of both severance and exit costs requires the use of estimates. Though we believe that these estimates accurately reflect the anticipated costs, actual results may be different than the estimated amounts.

Disposed and Discontinued Operations - From time to time we sell or discontinue or dispose of certain operations for various reasons. Estimates are used to adjust, if necessary, the assets and liabilities of discontinued operations, including goodwill, to their estimated fair market value. These estimates include assumptions relating to the proceeds anticipated as a result of the sale. Fair value is established using internal valuation calculations along with market analysis of similar-type entities. The adjustments to fair market value of these operations provide the basis for the gain or loss when sold. Changes in business conditions or the inability to sell an operation could potentially require future adjustments to these estimates. No impairment charges were recorded in 2018, 2017 or 2016.

Stock-Based Compensation - We are required to recognize in our Consolidated Statements of Earnings the expense associated with all share-based payment awards made to employees and directors, including stock appreciation rights ("SARs"), restricted stock units and performance share awards. We use the Black-Scholes valuation model to estimate the fair value of SARs granted to employees. The model requires that we estimate the expected life of the SAR, expected forfeitures and the volatility of our stock using historical data. For additional information related to the assumptions used, see Note 14 — Equity and Cash Incentive Program to the Consolidated Financial Statements in Item 8 of this Form 10-K.

Recent Accounting Standards

See Note 1 — Description of Business and Summary of Significant Accounting Policies to the Consolidated Financial Statements in Item 8 of this Form 10-K for a discussion of recent accounting pronouncements and recently adopted accounting standards.

Non-GAAP Disclosures

In an effort to provide investors with additional information regarding our results as determined by GAAP, we also disclose non-GAAP information which we believe provides useful information to investors. Segment EBITDA, segment EBITDA margin, free cash flow, net debt, net capitalization, the net debt to net capitalization ratio, adjusted working capital and organic revenue growth are not financial measures under GAAP and should not be considered as a substitute for earnings, cash flows from operating activities, debt or equity, working capital or revenue as determined in accordance with GAAP, and they may not be comparable to similarly titled measures reported by other companies. We believe that segment EBITDA and segment EBITDA margin are useful to investors and other users of our financial information in evaluating ongoing operating profitability as they exclude the depreciation and amortization expense related primarily to capital expenditures and acquisitions that occurred in prior years, as well as in evaluating operating performance in relation to our competitors. Segment EBITDA is calculated by adding back depreciation and amortization expense to segment earnings, which is the most directly comparable GAAP measure. We do not present segment net income because corporate expenses are not allocated at a segment level. Segment EBITDA margin is calculated as segment EBITDA divided by segment revenue.

We believe the net debt to net capitalization ratio and free cash flow are important measures of liquidity. Net debt to net capitalization ratio is helpful in evaluating our capital structure and the amount of leverage we employ. Free cash flow provides both management and investors a measurement of cash generated from operations that is available to fund acquisitions, pay dividends, repay debt and repurchase our common stock. Reconciliations of free cash flow, net debt and net capitalization can be found above in this Item 7, MD&A. We believe that reporting adjusted working capital, which is calculated as accounts receivable, plus inventory, less accounts payable, provides a meaningful measure of our operational results by showing the changes caused solely by revenue. We believe that reporting organic revenue and organic revenue growth, which exclude the impact of foreign currency exchange rates and the impact of acquisitions and divestitures, provides a useful comparison of our revenue performance and trends between periods.

ITEM 7A. QUANTITATIVE AND QUALITATIVE DISCLOSURES ABOUT MARKET RISK

The information required by this section is incorporated by reference to the section, "Financial Instruments and Risk Management", included within the MD&A in Item 7.

ITEM 8. FINANCIAL STATEMENTS AND SUPPLEMENTARY DATA

INDEX TO CONSOLIDATED FINANCIAL STATEMENTS AND FINANCIAL STATEMENT SCHEDULE

(All other schedules are not required and have been omitted)

MANAGEMENT'S REPORT ON INTERNAL CONTROL OVER FINANCIAL REPORTING

The management of the Company is responsible for establishing and maintaining adequate internal control over financial reporting, as such term is defined in Exchange Act Rule 13a-15(f).

The Company's management assessed the effectiveness of the Company's internal control over financial reporting as of December 31, 2018. In making this assessment, the Company's management used the criteria set forth by the Committee of Sponsoring Organizations of the Treadway Commission (COSO) in *Internal Control — Integrated Framework* (2013).

Based on its assessment under the criteria set forth in *Internal Control — Integrated Framework* (2013), management concluded that, as of December 31, 2018, the Company's internal control over financial reporting was effective to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with U.S. GAAP.

The effectiveness of the Company's internal control over financial reporting as of December 31, 2018 has been audited by PricewaterhouseCoopers LLP, an independent registered public accounting firm, as stated in their report which appears herein.

Report of Independent Registered Public Accounting Firm

To the Board of Directors and Shareholders of Dover Corporation:

Opinions on the Financial Statements and Internal Control over Financial Reporting

We have audited the accompanying consolidated balance sheets of Dover Corporation and its subsidiaries (the "Company") as of December 31, 2018 and 2017, and the related consolidated statements of earnings, comprehensive earnings, stockholders' equity, and cash flows for each of the three years in the period ended December 31, 2018, including the related notes and financial statement schedule listed in the accompanying index (collectively referred to as the "consolidated financial statements"). We also have audited the Company's internal control over financial reporting as of December 31, 2018, based on criteria established in *Internal Control - Integrated Framework* (2013) issued by the Committee of Sponsoring Organizations of the Treadway Commission (COSO).

In our opinion, the consolidated financial statements referred to above present fairly, in all material respects, the financial position of the Company as of December 31, 2018 and 2017, and the results of its operations and its cash flows for each of the three years in the period ended December 31, 2018 in conformity with accounting principles generally accepted in the United States of America. Also in our opinion, the Company maintained, in all material respects, effective internal control over financial reporting as of December 31, 2018, based on criteria established in *Internal Control - Integrated Framework* (2013) issued by the COSO.

Basis for Opinions

The Company's management is responsible for these consolidated financial statements, for maintaining effective internal control over financial reporting, and for its assessment of the effectiveness of internal control over financial reporting, included in the accompanying Management's Report on Internal Control over Financial Reporting. Our responsibility is to express opinions on the Company's consolidated financial statements and on the Company's internal control over financial reporting based on our audits. We are a public accounting firm registered with the Public Company Accounting Oversight Board (United States) (PCAOB) and are required to be independent with respect to the Company in accordance with the U.S. federal securities laws and the applicable rules and regulations of the Securities and Exchange Commission and the PCAOB.

We conducted our audits in accordance with the standards of the PCAOB. Those standards require that we plan and perform the audits to obtain reasonable assurance about whether the consolidated financial statements are free of material misstatement, whether due to error or fraud, and whether effective internal control over financial reporting was maintained in all material respects.

Our audits of the consolidated financial statements included performing procedures to assess the risks of material misstatement of the consolidated financial statements, whether due to error or fraud, and performing procedures that respond to those risks. Such procedures included examining, on a test basis, evidence regarding the amounts and disclosures in the consolidated financial statements. Our audits also included evaluating the accounting principles used and significant estimates made by management, as well as evaluating the overall presentation of the consolidated financial statements. Our audit of internal control over financial reporting included obtaining an understanding of internal control over financial reporting, assessing the risk that a material weakness exists, and testing and evaluating the design and operating effectiveness of internal control based on the assessed risk. Our audits also included performing such other procedures as we considered necessary in the circumstances. We believe that our audits provide a reasonable basis for our opinions.

Definition and Limitations of Internal Control over Financial Reporting

A company's internal control over financial reporting is a process designed 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. A company's internal control over financial reporting includes those policies and procedures that (i) pertain to the maintenance of records that, in reasonable detail, accurately and fairly reflect the transactions and dispositions of the assets of the company; (ii) provide reasonable assurance that transactions are recorded as necessary to permit preparation of financial statements in accordance with generally accepted accounting principles, and that receipts and expenditures of the company are being made only in accordance with authorizations of management and directors of the company; and (iii) provide reasonable assurance regarding prevention or timely detection of unauthorized acquisition, use, or disposition of the company's assets that could have a material effect on the financial statements.

Because of its inherent limitations, internal control over financial reporting may not prevent or detect misstatements. Also, projections of any evaluation of effectiveness to future periods are subject to the risk that controls may become inadequate because of changes in conditions, or that the degree of compliance with the policies or procedures may deteriorate.

/s/ PricewaterhouseCoopers LLP

Chicago, Illinois

February 15, 2019

We have served as the Company's auditor since 1995.

DOVER CORPORATION
CONSOLIDATED STATEMENTS OF EARNINGS
(In thousands, except per share amounts)

	Years Ended December 31,		
	2018	**2017**	**2016**
Revenue	$ 6,992,118	$ 6,820,886	$ 6,043,224
Cost of goods and services	4,432,562	4,291,839	3,815,672
Gross profit	2,559,556	2,529,047	2,227,552
Selling, general and administrative expenses	1,716,444	1,722,161	1,518,580
Operating earnings	843,112	806,886	708,972
Interest expense	130,972	144,948	135,969
Interest income	(8,881)	(8,491)	(6,752)
Gain on sale of businesses	—	(203,135)	(96,598)
Other income, net	(4,357)	(2,251)	(8,291)
Earnings before provision for income taxes	725,378	875,815	684,644
Provision for income taxes	134,233	129,152	182,516
Earnings from continuing operations	591,145	746,663	502,128
(Loss) earnings from discontinued operations, net	(20,878)	65,002	6,764
Net earnings	$ 570,267	$ 811,665	$ 508,892
Earnings per share from continuing operations:			
Basic	$ 3.94	$ 4.80	$ 3.23
Diluted	$ 3.89	$ 4.73	$ 3.21
(Loss) earnings per share from discontinued operations:			
Basic	$ (0.14)	$ 0.42	$ 0.04
Diluted	$ (0.14)	$ 0.41	$ 0.04
Net earnings per share:			
Basic	$ 3.80	$ 5.21	$ 3.28
Diluted	$ 3.75	$ 5.15	$ 3.25
Weighted average shares outstanding:			
Basic	149,874	155,685	155,231
Diluted	152,133	157,744	156,636

See Notes to Consolidated Financial Statements

DOVER CORPORATION
CONSOLIDATED STATEMENTS OF COMPREHENSIVE EARNINGS
(In thousands)

	Years Ended December 31,		
	2018	**2017**	**2016**
Net earnings	$ 570,267	$ 811,665	$ 508,892
Other comprehensive (loss) earnings, net of tax			
Foreign currency translation adjustments:			
Foreign currency translation (losses) gains	(59,970)	143,064	(106,526)
Reclassification of foreign currency translation losses to earnings	—	3,992	823
Total foreign currency translation adjustments	(59,970)	147,056	(105,703)
Pension and other postretirement benefit plans:			
Actuarial (losses) gains	(13,107)	12,439	(7,928)
Prior service (cost) credit	(14,661)	3,136	(776)
Amortization of actuarial losses included in net periodic pension cost	3,829	5,267	5,683
Amortization of prior service costs included in net periodic pension cost	2,875	3,007	4,397
Settlement and curtailment impact	9,926	(2,462)	—
Total pension and other postretirement benefit plans	(11,138)	21,387	1,376
Changes in fair value of cash flow hedges:			
Unrealized net gains (losses)	1,158	(1,801)	144
Net losses (gains) reclassified into earnings	1,541	(590)	415
Total cash flow hedges	2,699	(2,391)	559
Other	—	(1,485)	(985)
Other comprehensive (loss) earnings, net of tax	(68,409)	164,567	(104,753)
Comprehensive earnings	$ 501,858	$ 976,232	$ 404,139

See Notes to Consolidated Financial Statements

DOVER CORPORATION
CONSOLIDATED BALANCE SHEETS
(In thousands, except share and per share amounts)

	December 31, 2018	December 31, 2017
Assets		
Current assets:		
Cash and cash equivalents	$ 396,221	$ 753,964
Receivables, net of allowances of $28,469 and $34,479	1,231,859	1,183,514
Inventories	748,796	677,043
Prepaid and other current assets	126,878	175,626
Total current assets	2,503,754	2,790,147
Property, plant and equipment, net	806,497	787,940
Goodwill	3,677,328	3,686,372
Intangible assets, net	1,134,256	1,282,624
Other assets and deferred charges	243,936	245,723
Assets of discontinued operations	—	1,865,553
Total assets	$ 8,365,771	$ 10,658,359
Liabilities and Stockholders' Equity		
Current liabilities:		
Notes payable and current maturities of long-term debt	$ 220,318	$ 581,102
Accounts payable	969,531	882,007
Accrued compensation and employee benefits	212,666	228,118
Accrued insurance	97,600	101,619
Other accrued expenses	313,452	334,435
Federal and other income taxes	13,854	14,697
Total current liabilities	1,827,421	2,141,978
Long-term debt	2,943,660	2,986,702
Deferred income taxes	339,325	348,201
Noncurrent income tax payable	54,304	108,497
Other liabilities	432,395	425,548
Liabilities of discontinued operations	—	264,253
Stockholders' equity:		
Preferred stock - $100 par value; 100,000 shares authorized; none issued	—	—
Common stock - $1 par value; 500,000,000 shares authorized; 257,822,352 and 256,992,261 shares issued at December 31, 2018 and 2017	257,822	256,992
Additional paid-in capital	886,016	942,485
Retained earnings	7,815,486	8,455,501
Accumulated other comprehensive loss	(243,096)	(194,759)
Treasury stock, at cost: 112,905,810 and 102,168,868 shares at December 31, 2018 and 2017	(5,947,562)	(5,077,039)
Total stockholders' equity	2,768,666	4,383,180
Total liabilities and stockholders' equity	$ 8,365,771	$ 10,658,359

See Notes to Consolidated Financial Statements

DOVER CORPORATION
CONSOLIDATED STATEMENTS OF STOCKHOLDERS' EQUITY
(In thousands, except per share amounts)

	Common Stock $1 Par Value	Additional Paid-In Capital	Treasury Stock	Retained Earnings	Accumulated Other Comprehensive Earnings (Loss)	Total Stockholders' Equity
Balance at December 31, 2015	$ 256,113	$ 928,409	$ (4,972,016)	$ 7,686,642	$ (254,573)	$ 3,644,575
Net earnings	—	—	—	508,892	—	508,892
Dividends paid ($1.72 per share)	—	—	—	(267,739)	—	(267,739)
Common stock issued for the exercise of share-based awards	425	(16,125)	—	—	—	(15,700)
Tax benefit from the exercise of share-based awards	—	4,964	—	—	—	4,964
Stock-based compensation expense	—	21,015	—	—	—	21,015
Other comprehensive loss, net of tax	—	—	—	—	(104,753)	(104,753)
Other	—	8,492	—	—	—	8,492
Balance at December 31, 2016	256,538	946,755	(4,972,016)	7,927,795	(359,326)	3,799,746
Net earnings	—	—	—	811,665	—	811,665
Dividends paid ($1.82 per share)	—	—	—	(283,959)	—	(283,959)
Common stock issued for the exercise of share-based awards	454	(18,897)	—	—	—	(18,443)
Stock-based compensation expense	—	26,528	—	—	—	26,528
Common stock acquired	—	—	(105,023)	—	—	(105,023)
Other comprehensive earnings, net of tax	—	—	—	—	164,567	164,567
Other	—	(11,901)	—	—	—	(11,901)
Balance at December 31, 2017	256,992	942,485	(5,077,039)	8,455,501	(194,759)	4,383,180
Adoption of ASU 2018-02 [(1)]	—	—	—	12,856	(12,856)	—
Cumulative catch-up adjustment related to Adoption of Topic 606[(1)]	—	—	—	175	—	175
Net earnings	—	—	—	570,267	—	570,267
Dividends paid ($1.90 per share)	—	—	—	(283,570)	—	(283,570)
Separation of Apergy	—	—	—	(939,743)	32,928	(906,815)
Common stock issued for the exercise of share-based awards	830	(47,084)	—	—	—	(46,254)
Stock-based compensation expense	—	24,442	—	—	—	24,442
Common stock acquired	—	(24,454)	(870,523)	—	—	(894,977)
Other comprehensive loss, net of tax	—	—	—	—	(68,409)	(68,409)
Other	—	(9,373)	—	—	—	(9,373)
Balance at December 31, 2018	$ 257,822	$ 886,016	$ (5,947,562)	$ 7,815,486	$ (243,096)	$ 2,768,666

(1) See Note 1 — Basis of Presentation and Note 3 — Revenue for additional information.

See Notes to Consolidated Financial Statements

DOVER CORPORATION
CONSOLIDATED STATEMENTS OF CASH FLOWS
(In thousands)

	Years Ended December 31,		
	2018	2017	2016
Operating Activities of Continuing Operations			
Net earnings	$ 570,267	$ 811,665	$ 508,892
Adjustments to reconcile net earnings to cash from operating activities:			
Loss (earnings) from discontinued operations, net	20,878	(65,002)	(6,764)
Depreciation and amortization	282,580	283,278	249,672
Stock-based compensation	23,698	24,073	18,650
Gain on sale of businesses	—	(203,135)	(96,598)
Provision for losses on accounts receivable (net of recoveries)	3,875	10,341	7,700
Deferred income taxes	(35,448)	(160,395)	(43,258)
Employee benefit plan expense	11,912	12,191	25,364
Contributions to employee benefit plans	(25,933)	(18,588)	(23,042)
Other, net	(6,762)	(4,216)	(31,965)
Cash effect of changes in assets and liabilities (excluding effects of acquisitions, dispositions and foreign exchange):			
Accounts receivable	(87,573)	(43,450)	(74,049)
Inventories	(85,052)	605	(3,287)
Prepaid expenses and other assets	(7,453)	(5,232)	(415)
Accounts payable	106,561	94,052	70,836
Accrued compensation and employee benefits	(7,037)	23,319	(10,429)
Accrued expenses and other liabilities	(5,026)	(36,024)	49,960
Accrued taxes	29,706	15,927	93,329
Net cash provided by operating activities of continuing operations	789,193	739,409	734,596
Investing Activities of Continuing Operations			
Additions to property, plant and equipment	(170,994)	(170,068)	(139,578)
Acquisitions (net of cash and cash equivalents acquired)	(68,557)	(27,188)	(1,561,737)
Proceeds from sale of property, plant and equipment	5,908	11,774	15,223
Proceeds from sale of businesses	3,937	372,666	206,407
Other	(15,774)	21,151	(1,057)
Net cash (used in) provided by investing activities of continuing operations	(245,480)	208,335	(1,480,742)
Financing Activities of Continuing Operations			
Cash received from Apergy, net of cash distributed	689,643	—	—
Proceeds from long-term debt	—	—	656,399
Proceeds from exercise of share-based awards, including tax benefits	—	—	8,431
Change in commercial paper and notes payable, net	(10,722)	(182,596)	254,834
Repayment of long-term debt	(350,000)	—	(1,889)
Dividends to stockholders	(283,570)	(283,959)	(267,739)
Purchase of common stock	(894,977)	(105,023)	—
Payments for employee tax obligations upon exercise of share-based awards	(46,254)	(18,443)	(15,700)
Other	(1,958)	(2,912)	—
Net cash (used in) provided by financing activities of continuing operations	(897,838)	(592,933)	634,336
Cash Flows from Discontinued Operations			
Net cash provided by operating activities of discontinued operations	9,442	96,225	128,346
Net cash used in investing activities of discontinued operations	(23,705)	(46,484)	(24,231)
Net cash used in financing activities of discontinued operations	—	(1,208)	(600)
Net cash (used in) provided by discontinued operations	(14,263)	48,533	103,515
Effect of exchange rate changes on cash and cash equivalents	10,645	1,474	(4,744)
Net (decrease) increase in cash and cash equivalents	(357,743)	404,818	(13,039)
Cash and cash equivalents at beginning of year	753,964	349,146	362,185
Cash and cash equivalents at end of year	$ 396,221	$ 753,964	$ 349,146
Supplemental information - cash paid during the year for:			
Income taxes	$ 135,427	$ 337,987	$ 170,394
Interest	131,823	140,863	131,184

See Notes to Consolidated Financial Statements

DOVER CORPORATION
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS
(Amounts in thousands except share data and where otherwise indicated)

1. Description of Business and Summary of Significant Accounting Policies

Description of Business

Dover Corporation ("Dover" or "Company") is a diversified global manufacturer delivering innovative equipment and components, specialty systems, consumable supplies, software and digital solutions and support services. The Company also provides supporting engineering, testing and other similar services, which are not significant in relation to consolidated revenue. The Company's businesses are based primarily in the United States of America and Europe with manufacturing and other operations throughout the world. The Company operates through three business segments that are aligned with the key end markets they serve: Engineered Systems, Fluids, and Refrigeration & Food Equipment. For additional information on the Company's segments, see Note 18 — Segment Information.

Principles of Consolidation

The consolidated financial statements include the accounts of the Company and its wholly owned subsidiaries. Intercompany accounts and transactions have been eliminated in consolidation. The results of operations of acquired businesses are included from the dates of acquisitions. As discussed in Note 5 — Discontinued and Disposed Operations, the Company is reporting the assets, liabilities, results of operations and cash flows of Apergy prior to the spin-off, as discontinued operations for all periods presented.

Use of Estimates

The preparation of financial statements in conformity with accounting principles generally accepted in the United States requires management to make estimates and assumptions that affect the amounts reported in the Consolidated Financial Statements and accompanying disclosures. These estimates may be adjusted due to changes in future economic, industry, or customer financial conditions, as well as changes in technology or demand. Estimates are used for, but not limited to, allowances for doubtful accounts receivable, net realizable value of inventories, restructuring reserves, warranty reserves, pension and post-retirement plans, stock-based compensation, useful lives for depreciation and amortization of long-lived assets, future cash flows associated with impairment testing for goodwill, indefinite-lived intangible assets and other long-lived assets, deferred tax assets, uncertain income tax positions and contingencies. Actual results may ultimately differ from estimates, although management does not believe such differences would materially affect the consolidated financial statements in any individual year. Estimates and assumptions are periodically reviewed and the effects of revisions are reflected in the Consolidated Financial Statements in the period that they are determined.

Cash and Cash Equivalents

Cash and cash equivalents include cash on hand, demand deposits and short-term investments, which are highly liquid in nature and have original maturities at the time of purchase of three months or less. The carrying value of cash and cash equivalents approximate fair value.

Accounts Receivable and Allowance for Doubtful Accounts

Accounts receivable are recorded at face amounts less an allowance for doubtful accounts. The allowance is an estimate based on historical collection experience, current economic and market conditions and a review of the current status of each customer's trade accounts receivable. Management evaluates the aging of the accounts receivable balances and the financial condition of its customers to estimate the amount of accounts receivable that may not be collected in the future and records the appropriate provision.

Inventories

Inventories for the majority of the Company's subsidiaries, including all international subsidiaries, are stated at the lower of cost, determined on the first-in, first-out (FIFO) basis, or net realizable value. Other domestic inventories are stated at cost, determined on the last-in, first-out (LIFO) basis, which is less than market value.

Property, Plant and Equipment

Property, plant and equipment includes the historical cost of land, buildings, machinery and equipment, purchased software and significant improvements to existing plant and equipment or, in the case of acquisitions, a fair market value appraisal of assets. Expenditures for maintenance, repairs and minor renewals are expensed as incurred. When property or equipment is sold or otherwise disposed of, the related cost and accumulated depreciation is removed from the respective accounts and the gain or loss realized on disposition is reflected in earnings. The Company depreciates its assets on a straight-line basis over their estimated useful lives as follows: buildings and improvements 5 to 31.5 years; machinery and equipment 3 to 7 years; furniture and fixtures 3 to 7 years; vehicles 3 to 7 years; and software 3 to 10 years.

Derivative Financial Instruments

The Company uses derivative financial instruments to hedge its exposures to various risks, including interest rate and foreign currency exchange rate risk. The Company does not enter into derivative financial instruments for speculative purposes and does not have a material portfolio of derivative financial instruments. Derivative financial instruments used for hedging purposes must be designated and effective as a hedge of the identified risk exposure at inception of the contract. The Company recognizes all derivatives as either assets or liabilities on the consolidated balance sheet and measures those instruments at fair value. For derivatives designated as hedges of the fair value of assets or liabilities, the changes in fair value of both the derivatives and of the hedged items are recorded in current earnings. For derivatives designated as cash flow hedges, the effective portion of changes in the fair value of the derivatives is recorded as a component of other comprehensive earnings and subsequently recognized in net earnings when the hedged items impact earnings.

Goodwill and Other Intangible Assets

Goodwill represents the excess of purchase price over the fair value of net assets acquired. Goodwill and certain other intangible assets deemed to have indefinite lives (primarily trademarks) are not amortized. For goodwill, impairment tests are required at least annually, or more frequently if events or circumstances indicate that it may be impaired, or when some portion but not all of a reporting unit is disposed of or classified as assets held for sale. Based on its current organizational structure, the Company identified seven reporting units for which cash flows are determinable and to which goodwill may be allocated.

The Company performs its goodwill impairment test annually in the fourth quarter at the reporting unit level. A quantitative test is used to determine existence of goodwill impairment and the amount of the impairment loss at the reporting unit level. The quantitative test compares the fair value of a reporting unit with its carrying amount, including goodwill. The Company uses an income-based valuation method, determining the present value of estimated future cash flows, to estimate the fair value of a reporting unit. If the fair value of a reporting unit exceeds its carrying amount, goodwill of the reporting unit is not impaired. If the carrying amount of a reporting unit exceeds its fair value, an impairment loss shall be recognized in an amount equal to that excess, limited to the total amount of goodwill allocated to that reporting unit. Factors used in the impairment analysis require significant judgment, and actual results may differ from assumed and estimated amounts. The Company uses its own market assumptions including internal projections of future cash flows, discount rates and other assumptions considered reasonable and inherent in the analysis. These forecasts are based on historical performance and future estimated results. The discount rates used in these analyses vary by reporting unit and are based on a capital asset pricing model and published relevant industry rates. The Company uses discount rates commensurate with the risks and uncertainties inherent to each reporting unit and in the internally developed forecasts. See Note 8 — Goodwill and Other Intangible Assets for further discussion of the Company's annual goodwill impairment test and results.

The Company uses an income-based valuation method to annually test its indefinite-lived intangible assets for impairment. The fair value of the intangible asset is compared to its carrying value. This method uses the Company’s own market assumptions, which are considered reasonable and inherent in the analysis. Any excess of carrying value over the estimated fair value is recognized as an impairment loss. No impairment of indefinite-lived intangible assets was required for the years ended December 31, 2018, 2017, or 2016.

Other intangible assets with determinable lives primarily consist of customer intangibles, unpatented technologies, patents and trademarks. The other intangible assets are amortized over their estimated useful lives, ranging from 5 to 15 years.

Long-lived assets (including definite-lived intangible assets) are reviewed for impairment whenever events or changes in circumstances indicate that the carrying amount of an asset may not be recoverable, such as a significant sustained change in the business climate. If an indicator of impairment exists for any grouping of assets, an estimate of undiscounted future cash flows is produced and compared to its carrying value. If an asset is determined to be impaired, the loss is measured by the excess of the carrying amount of the asset over its fair value, as determined by an estimate of discounted future cash flows.

Restructuring Accruals

From time to time, the Company takes actions to reduce headcount, close facilities, or otherwise exit operations. Such restructuring activities at an operation are recorded when management has committed to an exit or reorganization plan and when termination benefits are probable and can be reasonably estimated based on circumstances at the time the restructuring plan is approved by management or when termination benefits are communicated. Exit costs include future minimum lease payments on vacated facilities and other contractual terminations. In addition, asset impairments may be recorded as a result of an approved restructuring plan. The accrual of both severance and exit costs requires the use of estimates. Though the Company believes that its estimates accurately reflect the anticipated costs, actual results may be different from the original estimated amounts.

Foreign Currency

Assets and liabilities of non-U.S. subsidiaries, where the functional currency is not the U.S. dollar, have been translated at year-end exchange rates and profit and loss accounts have been translated using weighted-average monthly exchange rates. Foreign currency translation gains and losses are included in the Consolidated Statements of Comprehensive Earnings as a component of other comprehensive earnings (loss). Assets and liabilities of an entity that are denominated in currencies other than an entity’s functional currency are re-measured into the functional currency using end of period exchange rates or historical rates, where applicable to certain balances. Gains and losses related to these re-measurements are recorded within the Consolidated Statements of Earnings as a component of other expense (income), net. Gains and losses arising from intercompany foreign currency transactions that are of a long-term investment in nature are reported in the same manner as translation adjustments.

Revenue Recognition

Effective January 1, 2018, the Company adopted Accounting Standard Codification ("ASC") Topic 606, Revenue from Contracts with Customers ("Topic 606” or “ASC 606”). Under Topic 606, a contract with a customer is an agreement which both parties have approved, that creates enforceable rights and obligations, has commercial substance and where payment terms are identified and collectability is probable. Once the Company has entered a contract, it is evaluated to identify performance obligations. For each performance obligation, revenue is recognized as control of promised goods or services transfers to the customer in an amount that reflects the consideration the Company expects to receive in exchange for those goods or services. The amount of revenue recognized takes into account variable consideration, such as discounts and volume rebates.

Prior to 2018, revenue is recognized when all the following conditions are satisfied: a) persuasive evidence of an arrangement exists, b) price is fixed or determinable, c) collectability is reasonably assured and d) delivery has occurred or services have been rendered.

The majority of the Company’s revenue is generated through the manufacture and sale of a broad range of specialized products and components, with revenue recognized upon transfer of control, title and risk of loss, which is generally upon shipment. Service revenue represents less than 5% of total revenue and is recognized as the services are performed. In limited cases, revenue arrangements with customers require delivery, installation, testing, certification, or other acceptance provisions to be satisfied before revenue is recognized. The Company includes shipping costs billed to customers in revenue and the related shipping costs in cost of goods and services.

Stock-Based Compensation

The principal awards issued under the Company’s stock-based compensation plans include non-qualified stock appreciation rights ("SARs"), restricted stock units and performance share awards. The cost for such awards is measured at the grant date based on the fair value of the award. At the time of grant, the Company estimates forfeitures, based on historical experience, in order to estimate the portion of the award that will ultimately vest. The value of the portion of the award that is expected to ultimately vest is recognized as expense on a straight-line basis, generally over the explicit service period of three years (except for retirement-eligible employees and retirees) and is included in selling, general and administrative expenses in the Consolidated Statements of Earnings. Expense for awards granted to retirement-eligible employees is recorded over the period from the date of grant through the date the employee first becomes eligible to retire and is no longer required to provide service. See Note 14 — Equity and Cash Incentive Program for additional information related to the Company's stock-based compensation.

Income Taxes

The provision for income taxes includes federal, state, local and non-U.S. taxes. Tax credits, primarily for research and experimentation, are recognized as a reduction of the provision for income taxes in the year in which they are available for tax purposes. Deferred taxes are provided using enacted rates on the future tax consequences of temporary differences. Temporary differences include the differences between the financial statement carrying amounts of assets and liabilities and their respective tax basis and the tax benefit of carryforwards. A valuation allowance is established for deferred tax assets for which realization is not assured. In assessing the need for a valuation allowance, management considers all available evidence, including the future reversal of existing taxable temporary differences, taxable income in carryback periods, prudent and feasible tax planning strategies and estimated future taxable income. The valuation allowance can be affected by changes to tax regulations, interpretations and rulings, changes to enacted statutory tax rates and changes to future taxable income estimates.

Tax benefits are recognized from an uncertain tax position only if it is more likely than not that the tax position will be sustained on examination by the taxing authorities, based on the technical merits of the position in consideration of applicable tax statutes and related interpretations and precedents. Tax benefits recognized in the financial statements from such a position are measured based on the largest benefit that has a greater than 50% likelihood of being realized on ultimate settlement.

On December 22, 2017, the U.S. bill commonly referred to as the Tax Cuts and Jobs Act ("Tax Reform Act") was enacted, which significantly changed U.S. tax law by, among other things, lowering corporate income tax rates, implementing a territorial tax system and imposing a one-time repatriation tax on deemed repatriated earnings of foreign subsidiaries. The Tax Reform Act reduced the U.S. corporate income tax rate from a maximum of 35% to a flat 21% rate, effective January 1, 2018. The Tax Reform Act also provided for a one-time deemed repatriation of post-1986 undistributed foreign subsidiary earnings and profits ("E&P") through the year ended December 31, 2017. The Global Intangible Low-Taxed Income ("GILTI") provisions of the Tax Reform Act require the Company to include in its U.S. income tax return foreign subsidiary earnings in excess of an allowable return on the foreign subsidiary's tangible assets. The Company is subject to incremental U.S. tax on GILTI income due to expense allocations required by the U.S. foreign tax credit rules. The Company has elected to account for GILTI tax in the period in which it is incurred, and therefore has not provided any deferred tax impacts of GILTI in its consolidated financial statements.

On December 22, 2017, the SEC staff issued Staff Accounting Bulletin No. 118 ("SAB 118") to address the application of U.S. GAAP in situations when a registrant does not have the necessary information available, prepared, or analyzed (including computations) in reasonable detail to complete the accounting for certain income tax effects of the Tax Reform Act. The Company recognized the provisional tax impacts related to deemed repatriated earnings and the benefit for the revaluation of deferred tax assets and liabilities, and included these amounts in its consolidated financial statements for the year ended December 31, 2017. In accordance with SAB 118, the Company finalized the financial reporting impact of the Tax Reform Act in the fourth quarter of 2018. For the year ended December 31, 2018, the Company recorded a $4.2 million net tax benefit, which resulted in a 0.6% decrease in the effective tax rate, as an adjustment to provisional estimates as a result of additional regulatory guidance and changes in interpretations and assumptions the Company has made as a result of the Tax Reform Act.

Research and Development Costs

Research and development costs, including qualifying engineering costs, are expensed when incurred and amounted to $143,033 in 2018, $130,536 in 2017 and $115,840 in 2016. These costs as a percent of revenue were 2.0% in 2018 and 1.9% in 2017 and 2016. Revisions were made to the 2017 and 2016 research and development costs and impacted only the disclosure as the costs were appropriately included in the Consolidated Statement of Earnings. The revisions were not material to the prior annual periods.

Advertising Costs

Advertising costs are expensed when incurred and amounted to $26,831 in 2018, $33,369 in 2017 and $35,035 in 2016.

Risk, Retention, Insurance

The Company currently self-insures its product and commercial general liability claims up to $5.0 million per occurrence, its workers' compensation claims up to $0.8 million per occurrence and automobile liability claims up to $5.0 million per occurrence. Third-party insurance provides primary level coverage in excess of these amounts up to certain specified limits. In addition, the Company has excess liability insurance from third-party insurers on both an aggregate and an individual occurrence basis well in excess of the limits of the primary coverage. A worldwide program of property insurance covers the Company's owned and leased property and any business interruptions that may occur due to an insured hazard affecting those properties, subject to reasonable deductibles and aggregate limits. The Company's property and casualty insurance programs contain various deductibles that, based on the Company's experience, are typical and customary for a company of its size and risk profile. The Company does not consider any of the deductibles to represent a material risk to the Company. The Company generally maintains deductibles for claims and liabilities related primarily to workers' compensation, health and welfare claims, general commercial, product and automobile liability, cybersecurity risks, property damage and business interruption resulting from certain events. The Company accrues for claim exposures that are probable of occurrence and can be reasonably estimated. As part of the Company's risk management program, insurance is maintained to transfer risk beyond the level of self-retention and provide protection on both an individual claim and annual aggregate basis.

Reclassifications – Certain amounts in prior years have been reclassified to conform to the current year presentation.

Recent Accounting Pronouncements

Recently Issued Accounting Standards

The following standards, issued by the Financial Accounting Standards Board ("FASB"), will, or are expected to, result in a change in practice and/or have a financial impact to the Company's Consolidated Financial Statements:

In August 2018, the FASB issued Accounting Standards Update ("ASU") 2018-15, Intangibles-Goodwill and Other Internal-Use Software (Subtopic 350-40): Customer's Accounting for Implementation Costs Incurred in a Cloud Computing Arrangement That Is a Service Contract. The amendments in this update align the requirements for capitalizing implementation costs incurred in a hosting arrangement that is a service contract with the requirements for capitalizing implementation costs incurred to develop or obtain internal-use software (and hosting arrangements that include an internal-use software license). The accounting for the service element of a hosting arrangement that is a service contract is not affected by the amendments in this update. The amendments in this update are effective for interim and annual periods for the Company beginning on January 1, 2020, with early adoption permitted. The amendments in this update should be applied either retrospectively or prospectively to all implementation costs incurred after the date of adoption. The Company is in the process of assessing the impact of this ASU on its Consolidated Financial Statements but does not expect this update to have a material impact on the Company's Consolidated Financial Statements.

In August 2017, the FASB issued ASU 2017-12, Derivatives and Hedging (Topic 815): Targeted Improvements to Accounting for Hedging Activities. This ASU provides new guidance about income statement classification and eliminates the requirement to separately measure and report hedge ineffectiveness. The entire change in fair value for qualifying hedge instruments included in the effectiveness will be recorded in other comprehensive income (OCI) and amounts deferred in OCI will be reclassified to earnings in the same income statement line item in which the earnings effect of the hedged item is reported. The guidance is effective for interim and annual periods for the Company on January 1, 2019, with early adoption permitted. The Company does not expect the adoption of this ASU to have a material impact on its Consolidated Financial Statements.

In June 2016, the FASB issued ASU No. 2016-13, Financial Instruments - Credit Losses (Topic 326): Measurement of Credit Losses on Financial Instruments, which amends the impairment model by requiring entities to use a forward-looking approach based on expected losses rather than incurred losses to estimate credit losses on certain types of financial instruments, including trade receivables. This may result in the earlier recognition of allowances for losses. The guidance is effective for interim and annual periods for the Company on January 1, 2020, with early adoption permitted. Management has not yet completed its assessment of the impact of the new standard on the Company's Consolidated Financial Statements. Currently, the Company believes that the most notable impact of this ASU may relate to its processes around the assessment of the adequacy of its allowance for doubtful accounts on trade accounts receivable and the recognition of credit losses.

In February 2016, the FASB issued ASU 2016-02, Leases (Topic 842), which amended existing guidance to require lessees to recognize assets and liabilities on the balance sheet for the rights and obligations created by long-term leases and to disclose additional quantitative and qualitative information about leasing arrangements. This ASU also provides clarifications surrounding the presentation of the effects of leases in the income statement and statement of cash flows. This guidance was effective for the Company on January 1, 2019. In addition, the FASB issued ASU 2018-11, Leases Targeted Improvements which provides an additional transition method that allows entities to apply the new leases standard at adoption date and recognize a cumulative effect adjustment to the opening balance of retained earnings in the period of adoption. The Company elected this new transition method when it adopted ASU 2016-02 on January 1, 2019.

During the second half of 2017, the Company developed a project plan to guide the implementation of ASU 2016-02. The Company completed this plan including surveying the Company's businesses, assessing the Company's portfolio of leases and compiling a central repository of active leases. The Company also implemented a lease accounting software solution to support the new reporting requirements and established a future lease process to keep the lease accounting portfolio up to date. The Company evaluated key policy elections and considerations under the standard and completed an internal policy as well as training to address the new standard requirements. The Company plans to elect the package of practical expedients and will not apply the recognition requirements to short-term leases. Although management continues to evaluate the effect to the Company's Consolidated Balance Sheets and disclosures, management currently estimates total assets and liabilities will increase approximately $150 million to $200 million upon adoption, before considering deferred taxes. Management does not expect a material impact to the Company's Consolidated Statements of Earnings or Cash Flows.

Recently Adopted Accounting Standards

In March 2018, the FASB issued ASU 2018-05, Income Taxes (Topic 740) Amendments to SEC Paragraphs Pursuant to the SEC Staff Accounting Bulletin No. 118 ("SAB 118"). This ASU provides guidance on income tax accounting implications under the Tax Reform Act. SAB 118 addressed the application of GAAP to situations when a registrant does not have the necessary information available, prepared and analyzed in reasonable detail to complete the accounting for certain income tax effects of the Tax Reform Act and allows companies to record provisional amounts during the re-measurement period not to exceed one year after the enactment date while the accounting impact remains under analysis. This guidance was effective immediately upon issuance. See Note 13 — Income Taxes for further details.

In February 2018, the FASB issued ASU No. 2018-02, Income Statement - Reporting Comprehensive Income (Topic 220) Reclassification of Certain Tax Effects from Accumulated Other Comprehensive Income. The ASU allows for the reclassification from Accumulated Other Comprehensive Income ("AOCI") to retained earnings for tax effects resulting from the Tax Reform Act that are stranded in AOCI. ASU 2018-02, however, does not change the underlying guidance that requires that the effect of a change in tax laws or rates be included in income from continuing operations. The Company early adopted this guidance on January 1, 2018, and elected to reclassify the stranded tax effects from AOCI to retained earnings of $12.9 million. The stranded tax effects were specifically identified and represented the difference between the change in the amount of income tax from 35% to 21%, recognized in AOCI primarily for the deferred taxes associated with pensions, which were recognized in the Consolidated Statement of Earnings for the year ended December 31, 2017.

In March 2017, the FASB issued ASU 2017-07, Compensation-Retirement Benefits (Topic 715): Improving the Presentation of Net Periodic Pension Cost and Net Periodic Postretirement Benefit Cost. This ASU changes the income statement presentation of defined benefit and post-retirement benefit plan expense by requiring separation between operating expense (service cost component of net periodic benefit expense) and non-operating expense (all other components of net periodic benefit expense, including interest cost, amortization of prior service cost, curtailments and settlements, etc.). The operating expense component is reported with similar compensation costs while the non-operating components are reported outside of operating income. The non-operating components are reported in the other (income) expense, net line item in the Consolidated Statement of Earnings. The Company's non-operating cost components of net periodic cost were a benefit (cost) of $5.8 million, $8.6 million and $(2.4) million during the years ended December 31, 2018 and 2017 and 2016 respectively. The impact of this adoption resulted in a reclassification to the Company's Condensed Consolidated Statement of Earnings for the year ended December 31, 2017 and 2016 in which previously reported selling, general and administrative expenses were adjusted by $8.6 million and $(2.4) million, respectively, with a corresponding adjustment to other income, net. The Company utilized a practical expedient included in the ASU which allowed the Company to use amounts previously disclosed in its pension and other post-retirement benefits note for the prior period as the estimation basis for applying the required retrospective presentation requirements. The Company adopted this guidance on January 1, 2018.

In January 2017, the FASB issued ASU 2017-01, Business combinations (Topic 805): Clarifying the definition of a business, which clarifies the definition of a business and assists entities with evaluating whether transactions should be accounted for as acquisitions (or disposals) of assets or businesses. Under this guidance, when substantially all of the fair value of gross assets acquired is concentrated in a single asset (or group of similar assets), the assets acquired would not represent a business. In addition, in order to be considered a business, an acquisition would have to include at a minimum an input and a substantive process that together significantly contribute to the ability to create an output. The amended guidance also narrows the definition of outputs by more closely aligning it with how outputs are described in FASB guidance for revenue recognition. The Company adopted this guidance on January 1, 2018. The adoption of this ASU did not have a material impact on the Company's Consolidated Financial Statements.

In August 2016, the FASB issued ASU 2016-15, Statement of Cash Flows (Topic 230): Classification of Certain Cash Receipts and Cash Payments. This ASU addresses the following eight specific cash flow issues: Debt prepayment or debt extinguishment costs; settlement of zero-coupon debt instruments or other debt instruments with coupon interest rates that are insignificant in relation to the effective interest rate of the borrowing; contingent consideration payments made after a business combination; proceeds from the settlement of insurance claims; proceeds from the settlement of corporate-owned life insurance policies (including bank-owned life insurance policies); distributions received from equity method investees; beneficial interests in securitization transactions; and separately identifiable cash flows and application of the predominance principle. The Company adopted this guidance on January 1, 2018. The adoption of this ASU did not have a material impact on the Company's Consolidated Financial Statements.

In May 2014, the FASB issued ASU 2014-09, Revenue from Contracts with Customers (Topic 606). The guidance introduced a new five-step revenue recognition model in which an entity should recognize revenue to depict the transfer of promised goods or services to customers in an amount that reflects the consideration to which the entity expects to be entitled in exchange for those goods or services. This ASU also required disclosures sufficient to enable users to understand the nature, amount, timing and uncertainty of revenue and cash flows arising from contracts with customers, including qualitative and quantitative disclosures about contracts with customers, significant judgments and changes in judgments and assets recognized from the costs to obtain or fulfill a contract. The Company adopted this guidance on January 1, 2018 using the modified retrospective method that resulted in a cumulative catch-up adjustment of $0.2 million to retained earnings as of the date of adoption.

(Amounts in thousands except share data and where otherwise indicated)

2. Spin-off of Apergy Corporation

On May 9, 2018, Dover completed the distribution of Apergy to its shareholders. The transaction was completed through the pro rata distribution of 100% of the common stock of Apergy to Dover's shareholders of record as of the close of business on April 30, 2018. Each Dover shareholder received one share of Apergy common stock for every two shares of Dover common stock held as of the record date.

The following is a summary of the assets and liabilities transferred to Apergy as part of the separation on May 9, 2018:

Assets:		
Cash and cash equivalents	$	10,357
Current assets		462,620
Non-current assets		1,438,760
	$	1,911,737
Liabilities:		
Current liabilities	$	185,354
Non-current liabilities		119,568
	$	304,922
Net assets distributed to Apergy Corporation	$	1,606,815
Less: Cash received from Apergy Corporation		700,000
Net distribution to Apergy Corporation	$	906,815

In connection with the spin-off from the Company, Apergy issued and sold $300.0 million in aggregate principal amount of its 6.375% senior notes due May 2026 in a private offering exempt from the registration requirements of the Securities Act of 1933, as amended, and incurred $415.0 million in borrowings under its new senior secured term loan facility to fund a one-time cash payment of $700.0 million to Dover. Dover received net cash of $689.6 million upon separation, which reflects $10.4 million of cash held by Apergy on the distribution date and retained by it in connection with its separation from Dover. Dover utilized the proceeds from Apergy as the primary source of funding for $1 billion of share repurchases started in December 2017. See Note 20 — Stockholders' Equity for further information.

Included within the net assets distributed to Apergy is approximately $33 million of accumulated other comprehensive earnings attributable to Apergy, relating primarily to foreign currency translation gains, offset by unrecognized losses on pension obligations.

The historical results of Apergy, including the results of operations, cash flows, and related assets and liabilities have been reclassified to discontinued operations for all periods presented herein. See Note 5 — Discontinued and Disposed Operations. Pursuant to the separation of Apergy from Dover, and the related separation and distribution agreements, any liabilities due from Dover to Apergy are not significant and will be paid in the near future.

3. Revenue

Revenue from contracts with customers

Effective January 1, 2018, the Company adopted Accounting Standard Codification ("ASC") Topic 606, Revenue from Contracts with Customers ("Topic 606" or "ASC 606"), using the modified retrospective method applied to those contracts which were not completed as of January 1, 2018. Accordingly, all periods prior to January 1, 2018 are presented in accordance with ASC Topic 605, Revenue Recognition ("Topic 605" or "ASC 605").

Under Topic 606, a contract with a customer is an agreement which both parties have approved, that creates enforceable rights and obligations, has commercial substance and where payment terms are identified and collectability is probable. Once the Company has entered a contract, it is evaluated to identify performance obligations. For each performance obligation, revenue is recognized as control of promised goods or services transfers to the customer in an amount that reflects the consideration the Company expects to receive in exchange for those goods or services. The amount of revenue recognized takes into account variable consideration, such as discounts and volume rebates.

(Amounts in thousands except share data and where otherwise indicated)

A majority of the Company's revenue is short cycle in nature with shipments within one year from order. A small portion of the Company's revenue derives from contracts extending over one year. The Company's payment terms generally range between 30 to 90 days and vary by the location of businesses, the type of products manufactured to be sold and the volume of products sold, among other factors.

Disaggregation of Revenue

Revenue from contracts with customers is disaggregated by end markets, segments and geographic location, as it best depicts the nature and amount of the Company's revenue.

The following table presents revenue disaggregated by end market and segment:

	Year Ended December 31, 2018
Printing & Identification	$ 1,162,431
Industrials	1,580,517
Total Engineered Systems segment	2,742,948
Fueling & Transport	1,465,590
Pumps	676,027
Process Solutions	655,721
Total Fluids segment	2,797,338
Refrigeration	1,197,072
Food Equipment	256,021
Total Refrigeration & Food Equipment segment	1,453,093
Intra-segment eliminations	(1,261)
Total Consolidated Revenue	$ 6,992,118

The following table presents revenue disaggregated by geography based on the location of the Company's customer:

	Year Ended December 31, 2018
United States	$ 3,619,717
Europe	1,572,788
Asia	867,268
Other Americas	631,164
Other	301,181
Total	$ 6,992,118

The majority of revenue from our Engineered Systems, Fluids and Refrigeration and Food Equipment segments is generated from sales to customers within the United States and Europe. Each segment also generates revenue across the other geographies, with no significant concentration of any segment's remaining revenue.

Performance Obligations

A performance obligation is a promise in a contract to transfer a distinct good or service, or a bundle of goods or services, to the customer, and is the unit of accounting under ASC Topic 606. A contract's transaction price is allocated to each distinct performance obligation and recognized as revenue when, or as, the performance obligation is satisfied. A majority of the Company's contracts have a single performance obligation which represents, in most cases, the equipment or product being sold to the customer. Some contracts include multiple performance obligations such as a product and the related installation, extended warranty and/or maintenance services. These contracts require judgment in determining the number of performance obligations.

The Company has elected to use the practical expedient to not adjust the promised amount of consideration for the effects of a significant financing component if it is expected, at contract inception, that the period between when Dover transfers a promised good or service to a customer, and when the customer pays for that good or service, will be one year or less. Thus, the Company may not consider an advance payment to be a significant financing component, if it is received less than one year before product completion.

(Amounts in thousands except share data and where otherwise indicated)

The majority of the Company’s contracts offer assurance-type warranties in connection with the sale of a product to a customer. Assurance-type warranties provide a customer with assurance that the related product will function as the parties intended because it complies with agreed-upon specifications. Such warranties do not represent a separate performance obligation.

The Company may also offer service-type warranties that provide services to the customer, in addition to the assurance that the product complies with agreed-upon specifications. If a warranty is determined to be a service-type warranty, it represents a distinct service and is treated as a separate performance obligation.

For contracts with multiple performance obligations, the Company allocates the total transaction price to each performance obligation in an amount based on the estimated relative standalone selling prices of the promised goods or services underlying each performance obligation. The Company uses an observable price to determine the stand-alone selling price for separate performance obligations or a cost plus margin approach when one is not available.

Over 95% of the Company’s performance obligations are recognized at a point in time that relate to the manufacture and sale of a broad range of products and components. Revenue is recognized when control transfers to the customer upon shipment or completion of installation, testing, certification, or other substantive acceptance provisions required under the contract. Less than 5% of the Company’s revenue is recognized over time and relates to the sale of engineered to order equipment or services.

For revenue recognized over time, there are two types of methods for measuring progress and both are relevant to the Company: (1) input methods and (2) output methods. Although this may vary by business, input methods generally are based on costs incurred relative to estimated total costs. Output methods generally are based on a measurement of progress, such as milestone achievement. The businesses use the method and measure of progress that best depicts the transfer of control to the customer of the goods or services to date relative to the remaining goods or services promised under the contract.

Transaction Price Allocated to the Remaining Performance Obligations

At December 31, 2018, we estimated that $83.8 million in revenue is expected to be recognized in the future related to performance obligations that are unsatisfied (or partially unsatisfied) at the end of the reporting period. We expect to recognize approximately 56% of our unsatisfied (or partially unsatisfied) performance obligations as revenue in 2019, with the remaining balance to be recognized in 2020 and thereafter.

Remaining consideration, including variable consideration, from contracts with customers is included in the amounts presented above and primarily consists of extended warranties on products and multi-year maintenance agreements, which are typically recognized as the performance obligation is satisfied.

The Company applied the standard's practical expedient that permits the omission of unsatisfied performance obligations for (i) contracts with an original expected length of one year or less and (ii) contracts for which the Company recognizes revenue at the amount to which the Company has the right to invoice for services performed.

Contract Balances

The following table provides information about contract assets and contract liabilities from contracts with customers:

	12/31/2018	At Adoption
Contract assets	$ 9,330	$ 11,932
Contract liabilities - current	36,461	48,268
Contract liabilities - non-current	9,382	9,916

Contract assets primarily relate to the Company's right to consideration for work completed but not billed at the reporting date and are recorded in prepaid and other current assets in the Condensed Consolidated Balance Sheet. Contract assets are transferred to receivables when the right to consideration becomes unconditional. Contract liabilities relate to advance consideration received from customers for which revenue has not been recognized. Current contract liabilities are recorded in other accrued expenses and non-current contract liabilities are recorded in other liabilities in the Condensed Consolidated Balance Sheet. Contract liabilities are reduced when the associated revenue from the contract is recognized.

(Amounts in thousands except share data and where otherwise indicated)

Significant changes in contract assets and liabilities balances during the period are as follows:

		Contract Assets
Opening balance at January 1, 2018	$	11,932
Cumulative catch-up adjustment upon transition		701
Changes in the estimate of the stage of completion		11,884
Transferred to receivables from contract assets recognized during the period		(14,947)
Other		(240)
Closing balance at December 31, 2018	$	9,330

		Contract Liabilities
Opening balance at January 1, 2018	$	58,184
Revenue recognized during the period		(68,211)
Increases due to cash received		64,603
Other		(8,733)
Closing balance at December 31, 2018	$	45,843

The revenue recognized during 2018 that was included in the contract liability at the beginning of the period amounted to $38,410.

Contract Costs

Costs incurred to obtain a customer contract are not material to the Company. The Company elected to apply the practical expedient to not capitalize contract costs to obtain contracts with a duration of one year or less, which are expensed and included within cost of goods and services in the Condensed Consolidated Statements of Earnings.

Critical Accounting Estimates

Estimates are used to determine the amount of variable consideration in contracts, the standalone selling price among separate performance obligations and the measure of progress for contracts where revenue is recognized over time. The Company reviews and updates these estimates regularly.

Some contracts with customers include variable consideration primarily related to volume rebates. The Company estimates variable consideration at the most likely amount to determine the total consideration which the Company expects to be entitled. Estimated amounts are included in the transaction price to the extent it is probable that a significant reversal of cumulative revenue recognized will not occur when the uncertainty associated with the variable consideration is resolved. The Company's estimates of variable consideration and determination of whether to include estimated amounts in the transaction price are based largely on an assessment of anticipated performance and all information (historical, current and forecasted) that is reasonably available.

Changes in Accounting Policies

The Company adopted Topic 606, effective January 1, 2018, using the modified retrospective method applying Topic 606 to contracts that are not complete as of the date of initial application. Under the modified retrospective method, the cumulative effect of applying the standard has been recognized at the date of initial application, January 1, 2018. The comparative information has not been adjusted and continues to be reported under Topic 605. The Company's accounting policy has been updated to align with Topic 606, and no significant changes to revenue recognition have occurred as a result of the change.

Shipping and handling charges are not considered a separate performance obligation. If revenue is recognized for the related good before the shipping and handling activities occur, the related costs of those shipping and handling activities must be accrued.

Additionally, all taxes assessed by a governmental authority that are both imposed on and concurrent with a specific revenue-producing transaction and collected from a customer (e.g., sales, use, value added, and some excise taxes) are excluded from revenue. The Company's policy elections related to shipping and handling and taxes have not changed with the adoption of Topic 606.

Under Topic 605, revenue was generally recognized when all of the following criteria were met: a) persuasive evidence of an arrangement exists, b) price is fixed or determinable, c) collectability is reasonably assured and d) delivery has occurred or services have been rendered. The majority of the Company's revenue is generated through the manufacture and sale of a broad range of specialized products and components and revenue was recognized upon transfer of title and risk of loss, which was generally upon shipment. In limited cases, the Company's revenue arrangements with customers required delivery, installation, testing, certification, or other acceptance provisions to be satisfied before revenue was recognized. The Company included shipping costs billed to customers in Revenue and the related shipping costs in Cost of goods and services.

Impact on Financial Statements

The adoption of Topic 606 impacted certain contracts for highly customized customer products that have no alternative use and in which the contract specifies the Company has a right to payment for its costs, plus a reasonable margin. For these contracts, the Company now recognizes revenue over time based on the method and measure of progress that best depicts the transfer of control to the customer of the goods or services to date relative to the remaining goods or services promised under the contract.

The Company recorded a cumulative catch-up adjustment to retained earnings at January 1, 2018 for $0.2 million, related to the impact of adopting Topic 606 under the modified retrospective method.

The impact of adopting Topic 606 was not material to the Company’s consolidated financial statements for the year ended December 31, 2018.

4. Acquisitions

2018

During the year ended December 31, 2018, the Company acquired two businesses in separate transactions for total consideration of $68,557, net of cash acquired. The businesses were acquired to complement and expand upon existing operations within the Fluids and Refrigeration & Food Equipment segments. The goodwill identified by these acquisitions reflects the benefits expected to be derived from product line expansion and operational synergies. The goodwill is non-deductible for U.S. federal income tax purposes for these acquisitions.

On January 2, 2018, the Company acquired 100% of the voting stock of Ettlinger Group ("Ettlinger"), within the Fluids segment for $53,218, net of cash acquired. In connection with this acquisition, the Company recorded goodwill of $36,303 and intangible assets of $19,907, primarily related to customer intangibles. The intangible assets are being amortized over 8 to 15 years.

On January 12, 2018, the Company acquired 100% of the voting stock of Rosario Handel B.V. ("Rosario"), within the Refrigeration & Food Equipment segment for total consideration of $15,339, net of cash acquired. In connection with this acquisition, the Company recorded goodwill of $10,408 and a customer intangible asset of $4,149. The customer intangible asset is being amortized over 10 years.

(Amounts in thousands except share data and where otherwise indicated)

The pro forma effects of these acquisitions on the Company's operations are disclosed in this footnote.

2017

During the year ended December 31, 2017, the Company acquired two businesses in separate transactions for total consideration of $34,300.

On April 5, 2017, the Company purchased 100% of the voting stock of Caldera Graphics S.A.S. ("Caldera") within the Engineered Systems segment for $32,857, net of cash acquired and including contingent consideration. In connection with this acquisition, the Company recorded goodwill of $27,174 and intangible assets of $8,169, primarily related to customer intangibles. The goodwill is non-deductible for U.S. federal income tax purposes. The intangible assets are being amortized over 7 to 15 years.

One other immaterial acquisition was completed during the year within the Engineered Systems segment.

The pro forma effects of these acquisitions on the Company's operations are disclosed in this footnote.

2016

During 2016, the Company acquired six businesses, in separate transactions, for total consideration of $1,561,737, net of cash acquired. During the measurement period, the Company recorded working capital adjustments which resulted in final net cash consideration of $1,554,448. These acquisitions were completed primarily to complement and expand upon existing operations within the Fluids and Engineered Systems segments.

Pro Forma Information

The following unaudited pro forma results of operations reflect the 2018 acquisitions as if they had occurred on January 1, 2017 and the 2017 acquisitions as if they had occurred on January 1, 2016. The pro forma information is not necessarily indicative of the results that actually would have occurred, nor does it indicate future operating results. The supplemental pro forma earnings reflect adjustments to earnings from continuing operations as reported in the Consolidated Statements of Earnings to exclude nonrecurring expense related to the fair value adjustments to acquisition-date inventory (after-tax) and acquisition-related costs (after-tax) from the year ended December 31, 2018. These adjustments were not material in 2018 and 2017. The supplemental pro forma earnings for the 2017 period were similarly adjusted for 2017 acquisitions charges as if incurred at the beginning of 2016. The 2018 and 2017 supplemental pro forma earnings are also adjusted to reflect the comparable impact of additional depreciation and amortization expense, net of tax, resulting from the fair value measurement of tangible and intangible assets relating to 2018 and 2017 acquisitions.

	Years Ended December 31,	
	2018	**2017**
Revenue:		
As reported	$ 6,992,118	$ 6,820,886
Pro forma	6,992,434	6,858,255
Earnings:		
As reported	$ 591,145	$ 746,663
Pro forma	594,786	747,537
Basic earnings per share:		
As reported	$ 3.94	$ 4.80
Pro forma	3.97	4.80
Diluted earnings per share:		
As reported	$ 3.89	$ 4.73
Pro forma	3.91	4.74

DOVER CORPORATION
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS
(Amounts in thousands except share data and where otherwise indicated)

5. Discontinued and Disposed Operations

Discontinued Operations

The Apergy businesses, as discussed in Note 2, met the criteria to be reported as discontinued operations because the spin-off is a strategic shift in business that has a major effect on the Company's operations and financial results. Therefore, the results of discontinued operations for the years ended December 31, 2018, 2017 and 2016 include the historical results of Apergy prior to its distribution on May 9, 2018. The years ended December 31, 2018, 2017 and 2016 included costs incurred by Dover to complete the spin-off of Apergy amounting to $46,384, $15,270 and $0, respectively, reflected in selling, general and administrative expenses in discontinued operations. Due to lump-sum payments made in 2018 for Apergy participants of the Dover U.S. Pension Plan, non-cash settlement and curtailment costs of approximately $9,200 was classified within discontinuing operations. See Note 2 — Spin-off of Apergy Corporation and Note 16 — Employee Benefit Plans for further information.

Summarized results of the Company's discontinued operations are as follows:

	Years Ended December 31,		
	2018	2017	2016
Revenue	$ 403,688	1,010,135	$ 751,808
Cost of goods and services	254,205	648,805	507,392
Gross profit	149,483	361,330	244,416
Selling, general and administrative expenses	147,261	262,353	236,510
Operating earnings	2,222	98,977	7,906
Other expense, net	9,048	949	3,218
(Loss) earnings from discontinued operations before taxes	(6,826)	98,028	4,688
Provision (benefit) for income taxes	14,052	33,026	(2,076)
(Loss) earnings from discontinued operations, net of tax	$ (20,878)	65,002	$ 6,764

Assets and liabilities of discontinued operations are summarized below:

	December 31, 2017
Assets of Discontinued Operations	
Accounts receivable	$ 202,052
Inventories, net	201,591
Prepaid and other current assets	14,035
Total current assets	417,678
Property, plant and equipment, net	211,832
Goodwill and intangible assets, net	1,232,843
Other assets and deferred charges	3,200
Total assets	$ 1,865,553
Liabilities of Discontinued Operations	
Accounts payable	$ 97,439
Other current liabilities	59,482
Total current liabilities	156,921
Deferred income taxes	90,641
Other liabilities	16,691
Total liabilities	$ 264,253

On May 9, 2018, all assets and liabilities of Apergy were spun-off. Therefore, as of December 31, 2018, there were no assets and liabilities classified as discontinued operations.

DOVER CORPORATION
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS
(Amounts in thousands except share data and where otherwise indicated)

Disposed Businesses

2018

There were no other material dispositions in 2018 aside from the spin-off of Apergy.

2017

On November 1, 2017, the Company completed the sale of the consumer and industrial winch business of Warn Industries, Inc. ("Warn"), a wholly owned subsidiary of the Company, for total consideration of $250,283. The Company recognized a pre-tax gain on sale of $116,932. The Company retained the automotive business of Warn within the Industrials platform of the Engineered Systems segment.

On February 14, 2017, the Company completed the sale of Performance Motorsports International ("PMI"), a wholly owned subsidiary of the Company that manufactures pistons and other engine related components serving the motorsports and powersports markets. Total consideration for the transaction was $147,313, including cash proceeds of $118,706. The Company recognized a pre-tax gain on sale of $88,402 and recorded a 25% equity method investment at fair value of $18,607 as well as a subordinated note receivable of $10,000.

Other immaterial dispositions completed during the year were recorded as a net pre-tax loss of $2,196. Gains and losses recorded from the sale of businesses were reported in the gain on sale of businesses line in the Consolidated Statements of Earnings.

2016

On February 17, 2016, the Company completed the sale of Texas Hydraulics, a custom manufacturer of fluid power components within the Engineered Systems segment. The Company received gross proceeds of $47,300 and in connection with the sale of Texas Hydraulics, the Company recorded a pre-tax gain of $11,853.

On November 1, 2016, the Company completed the sale of Tipper Tie, a global supplier of processing and clip packaging machines within the Refrigeration & Food Equipment segment. The Company received gross proceeds of $158,887 with the sale and recorded a pre-tax gain of $85,035.

Management evaluates Dover's businesses periodically and may from time to time sell or discontinue certain operations for various reasons. The disposals in 2017 and 2016 did not represent strategic shifts in operations and, therefore, did not qualify for presentation as a discontinued operation, unless otherwise noted.

6. Inventories

The components of inventories were as follows:

	December 31, 2018	December 31, 2017
Raw materials	$ 439,616	$ 400,009
Work in progress	154,878	128,296
Finished goods	265,722	251,402
Subtotal	860,216	779,707
Less reserves	(111,420)	(102,664)
Total	$ 748,796	$ 677,043

At December 31, 2018 and 2017, approximately 11% of the Company's total inventories were accounted for using the LIFO method.

(Amounts in thousands except share data and where otherwise indicated)

7. Property, Plant and Equipment, net

The components of property, plant and equipment, net were as follows:

	December 31, 2018	December 31, 2017
Land	$ 53,623	$ 54,918
Buildings and improvements	529,982	517,049
Machinery, equipment and other	1,555,345	1,472,852
Property, plant and equipment, gross	2,138,950	2,044,819
Total accumulated depreciation	(1,332,453)	(1,256,879)
Property, plant and equipment, net	$ 806,497	$ 787,940

Total depreciation expense was $138,712, $133,107 and $119,502 for the years ended December 31, 2018, 2017 and 2016, respectively.

8. Goodwill and Other Intangible Assets

Goodwill

ASC 350 "Intangibles - Goodwill and Other Intangibles" provides guidance on an entity's subsequent measurement and recognition of goodwill and other intangibles, including subsequent changes to carrying amounts, including impairment and fair value adjustments. In accordance with the guidance set forth in ASC 350, and in connection with the separation of Apergy, the Company was required to calculate the portion of goodwill included in the Apergy distribution. Using a relative fair value approach, the Company reallocated $3,546 of goodwill from a reporting unit that included Apergy to a reporting unit now included within the Engineered Systems segment. See Note 18 — Segment Information for further information.

The changes in the carrying value of goodwill by reportable operating segments were as follows:

	Engineered Systems	Fluids	Refrigeration & Food Equipment	Total
Goodwill	$ 1,636,291	$ 1,563,938	$ 536,179	$ 3,736,408
Accumulated impairment loss	(10,591)	(59,970)	—	(70,561)
Balance at January 1, 2017	$ 1,625,700	$ 1,503,968	$ 536,179	$ 3,665,847
Acquisitions	30,180	—	—	30,180
Purchase price adjustments	6,826	(35,939)	—	(29,113)
Disposition of business	(79,113)	—	(296)	(79,409)
Foreign currency translation	61,796	36,255	816	98,867
Balance at December 31, 2017	1,645,389	1,504,284	536,699	3,686,372
Reallocation due to Apergy separation	3,546	—	—	3,546
Acquisitions	—	36,303	10,408	46,711
Purchase price adjustments	328	—	—	328
Foreign currency translation	(25,603)	(32,985)	(1041)	(59,629)
Balance at December 31, 2018	$ 1,623,660	$ 1,507,602	$ 546,066	$ 3,677,328

During 2018 and 2017, the Company recognized additions of $46,711 and $30,180, respectively, to goodwill as a result of acquisitions as discussed in Note 4 — Acquisitions. During 2018 and 2017, the Company recorded adjustments totaling $328 and $(29,113), respectively, as a result of the finalization of purchase price allocation to assets acquired and liabilities assumed related to acquisitions completed in 2017 and 2016.

The net goodwill transferred to Apergy on May 9, 2018 amounted to $899,888.

During 2017, the Company derecognized $79,409 of goodwill as a result of the disposition of businesses as discussed in Note 5 — Discontinued and Disposed Operations. The Company reallocated goodwill upon disposal based upon the fair value of the disposed business relative to the remaining entities in its reporting unit.

(Amounts in thousands except share data and where otherwise indicated)

Annual impairment testing

The Company tests goodwill for impairment annually in the fourth quarter of each year and whenever events or circumstances indicate an impairment may have occurred. Consequently, in connection with the separation of Apergy, the Company realigned its remaining businesses and reallocated goodwill among its reporting units based on their relative fair value and tested goodwill for impairment in the second quarter of 2018. The Company concluded that no impairment indicators existed.

The Company performed its annual goodwill impairment test during the fourth quarter of 2018 using a discounted cash flow analysis as discussed in Note 1 — Description of Business and Summary of Significant Accounting Policies. The Company performed a quantitative goodwill impairment test for each of its seven reporting units, concluding that the fair values of all of its reporting units were substantially in excess of their carrying values. As previously noted, the fair values of each of the Company’s reporting units was determined using a discounted cash flow analysis which includes management’s current assumptions as to future cash flows and long-term growth rates. The discount rates used in these analyses varied by reporting unit and were based on a capital asset pricing model and published relevant industry rates. The Company used discount rates commensurate with the risks and uncertainties inherent to each reporting unit and in our internally developed forecasts. Discount rates used in the 2018 reporting unit valuations ranged from 8.5% to 9.5%.

While the Company believes the assumptions used in the 2018 impairment analysis are reasonable and representative of expected results, if market conditions worsen or persist for an extended period of time, an impairment of goodwill or assets may occur. The Company will continue to monitor the long-term outlook and forecasts, including estimated future cash flows, for these businesses and the impact on the carrying value of goodwill and assets.

Intangible Assets

The Company's definite-lived and indefinite-lived intangible assets by major asset class were as follows:

	December 31, 2018			December 31, 2017		
	Gross Carrying Amount	Accumulated Amortization	Net Carrying Amount	Gross Carrying Amount	Accumulated Amortization	Net Carrying Amount
Amortized intangible assets:						
Customer intangibles	$ 1,395,742	$ 645,305	$ 750,437	$ 1,405,361	$ 559,447	$ 845,914
Trademarks	214,774	72,305	142,469	217,621	58,523	159,098
Patents	144,302	128,254	16,048	145,577	123,135	22,442
Unpatented technologies	155,380	85,560	69,820	152,913	71,284	81,629
Distributor relationships	82,970	37,943	45,027	85,794	32,092	53,702
Drawings & manuals	31,849	23,273	8,576	32,739	20,767	11,972
Other	21,046	15,835	5,211	23,095	12,028	11,067
Total	2,046,063	1,008,475	1,037,588	2,063,100	877,276	1,185,824
Unamortized intangible assets:						
Trademarks	96,668	—	96,668	96,800	—	96,800
Total intangible assets, net	$ 2,142,731	$ 1,008,475	$ 1,134,256	$ 2,159,900	$ 877,276	$ 1,282,624

The Company recorded $24,056 of acquired intangible assets in 2018. See Note 4 — Acquisitions.

Amortization expense was $143,868, $150,171 and $130,171, including acquisition-related intangible amortization of $142,170, $148,147 and $128,007, for the years ended December 31, 2018, 2017 and 2016, respectively.

DOVER CORPORATION
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS
(Amounts in thousands except share data and where otherwise indicated)

Estimated future amortization expense related to intangible assets held at December 31, 2018 is as follows:

	Estimated Amortization
2019	$ 131,936
2020	123,425
2021	117,381
2022	103,917
2023	93,854

9. Other Accrued Expenses and Other Liabilities

The following table details the major components of Other accrued expenses:

	December 31, 2018	December 31, 2017
Warranty	$ 42,498	$ 51,360
Contract liabilities - current	36,461	48,268
Taxes other than income	34,785	35,976
Accrued rebates and volume discounts	38,064	36,367
Restructuring and exit costs	27,697	31,312
Accrued interest	25,390	31,066
Accrued commissions (non-employee)	17,847	12,481
Other (none of which are individually significant)	90,710	87,605
Total current liabilities	$ 313,452	$ 334,435

The following table details the major components of Other liabilities (non-current):

	December 31, 2018	December 31, 2017
Defined benefit and other post-retirement benefit plans	$ 167,930	$ 185,972
Unrecognized tax benefits	112,299	84,452
Deferred compensation	81,332	77,860
Legal and environmental	31,462	34,105
Contract liabilities - non current	9,382	9,916
Warranty	7,575	8,043
Other (none of which are individually significant)	22,415	25,200
Total other liabilities	$ 432,395	$ 425,548

Warranty

Estimated warranty program claims are provided for at the time of sale. Amounts provided for are based on historical costs and adjusted for new claims. Additionally, a warranty accrual related to a product recall was $497 and $6,613, at December 31, 2018 and 2017, respectively. See Note 15 — Commitments and Contingent Liabilities for further details.The changes in the carrying amount of product warranties were as follows:

	Years Ended December 31,		
	2018	2017	2016
Beginning Balance, December 31 of the Prior Year	$ 59,403	$ 80,331	$ 40,046
Provision for warranties	59,176	57,164	66,457
Settlements made	(66,687)	(71,068)	(33,759)
Other adjustments, including acquisitions and currency translation	(1,819)	(7,024)	7,587
Ending Balance, December 31	$ 50,073	$ 59,403	$ 80,331

(Amounts in thousands except share data and where otherwise indicated)

10. Restructuring Activities

The Company initiated various restructuring programs and incurred severance and other restructuring costs by segment as follows:

	Years Ended December 31,		
	2018	2017	2016
Engineered Systems	$ 21,040	$ 12,066	$ 4,097
Fluids	25,744	16,348	19,143
Refrigeration & Food Equipment	3,475	14,070	928
Corporate	8,244	9,776	837
Total	$ 58,503	$ 52,260	$ 25,005
These amounts are classified in the Consolidated Statements of Earnings as follows:			
Cost of goods and services	$ 16,921	$ 16,658	$ 5,335
Selling, general and administrative expenses	41,582	35,602	19,670
Total	$ 58,503	$ 52,260	$ 25,005

Total restructuring charges of $58,503 incurred during the year ended December 31, 2018, were a result of restructuring programs initiated in 2017 and 2018. Restructuring expense includes $56,138 related to two significant rightsizing programs for the year ended December 31, 2018. Rightsizing during the first half of the year were largely initiated in the fourth quarter of 2017 and designed to better align the Company's cost structure in preparation for the Apergy separation and included targeted facility consolidations, headcount reductions and other measures to further optimize operations. The rightsizing actions taken due to the Apergy separation are substantially complete. Rightsizing in the second half of 2018 were comprised primarily of broad-based selling, general and administrative expense reduction and footprint consolidation initiatives designed to increase operating margin, enhance operations and position the Company for sustained growth and investment. The Company expects to incur total charges of approximately $42 million related to selling, general and administrative expense reduction initiatives, $37 million of which was incurred during the year ended December 31, 2018 and approximately $5 million of which the Company expects to incur in 2019. The Company expects to incur total restructuring charges of approximately $15 million related to the footprint consolidation initiatives, $5 million of which was incurred during the year ended December 31, 2018 and approximately $10 million of which the Company expects to incur in 2019 and 2020. Additional programs, beyond the scope of the announced programs may be implemented during 2019 with related restructuring charges.

The $58.5 million of restructuring charges incurred during 2018 included the following programs:

- The Engineered Systems segment recorded $21,040 of restructuring charges related to programs across the segment focused on headcount reductions and manufacturing plant consolidation.
- The Fluids segment recorded $25,744 of restructuring charges principally related to headcount reductions and manufacturing plant and facility consolidations, focused on achieving long-term footprint optimization.
- The Refrigeration & Food Equipment segment recorded $3,475, of restructuring charges primarily due to headcount reductions, product exit and manufacturing plant consolidation.
- Corporate recorded $8,244 of restructuring charges primarily related to headcount reductions.

Restructuring expenses incurred in 2017 and 2016 also included headcount reduction, targeted facility consolidations at certain businesses and actions taken to optimize the Company's cost structure.

(Amounts in thousands except share data and where otherwise indicated)

The following table details the Company's severance and other restructuring accrual activities:

	Severance	Exit	Total
Balance at January 1, 2016	$ 9,871	$ 2,232	$ 12,103
Restructuring charges	19,166	5,839	25,005
Payments	(17,111)	(5,138)	(22,249)
Other, including foreign currency translation	(1,268)	(1,703) (1)	(2,971)
Balance at December 31, 2016	10,658	1,230	11,888
Restructuring charges	32,228	20,032	52,260
Payments	(16,898)	(5,707)	(22,605)
Other, including foreign currency translation	(1,033)	(9,239) (1)	(10,272)
Balance at December 31, 2017	24,955	6,316	31,271
Restructuring charges	45,146	13,357	58,503
Payments	(43,287)	(8,713)	(52,000)
Other, including foreign currency translation	(2,530)	(7,080) (1)	(9,610)
Balance at December 31, 2018	$ 24,284	$ 3,880	$ 28,164

(1) Other activity in exit reserves primarily represents the non-cash write-off of certain long-lived assets and inventory in connection with certain facility closures and product exits.

The restructuring accrual balances at December 31, 2018 primarily reflects restructuring plans initiated during the year, inclusive of rightsizing-related restructuring and ongoing lease commitment obligations for facilities closed in prior periods.

11. Borrowings and Lines of Credit

Borrowings consist of the following:

	December 31, 2018	December 31, 2017
Short-term:		
Current portion of long-term and short-term borrowings	$ —	$ 350,402
Commercial paper	220,318	230,700
Notes payable and current maturities of long-term debt	$ 220,318	$ 581,102

		Carrying amount (1)	
	Principal	December 31, 2018	December 31, 2017
Long-term:			
5.45% 10-year notes due March 15, 2018	$ 350,000	$ —	$ 349,918
2.125% 7-year notes due December 1, 2020 (euro-denominated)	€ 300,000	339,657	354,349
4.30% 10-year notes due March 1, 2021	$ 450,000	449,200	448,831
3.150% 10-year notes due November 15, 2025	$ 400,000	395,368	394,695
1.25% 10-year notes due November 9, 2026 (euro-denominated)	€ 600,000	672,103	701,058
6.65% 30-year debentures due June 1, 2028	$ 200,000	199,054	198,954
5.375% 30-year debentures due October 15, 2035	$ 300,000	295,811	295,561
6.60% 30-year notes due March 15, 2038	$ 250,000	247,827	247,713
5.375% 30-year notes due March 1, 2041	$ 350,000	343,877	343,600
Other		763	2,034
Total long-term debt		2,943,660	3,336,713
Less long-term debt current portion		—	(350,011)
Net long-term debt		$ 2,943,660	$ 2,986,702

(1) Carrying amount is net of unamortized debt discount and deferred debt issuance costs. Total unamortized debt discounts were $15.8 million and $17.6 million as of December 31, 2018, and December 31, 2017, respectively. Total deferred debt issuance costs were $13.0 million and $14.9 million as of December 31, 2018, and December 31, 2017, respectively.

The discounts are being amortized to interest expense using the effective interest method over the life of the issuances.

(Amounts in thousands except share data and where otherwise indicated)

On March 15, 2018, the outstanding 5.45% notes with a principal value of $350.0 million matured. The repayment of debt was funded by the Company's commercial paper program and existing cash balances.

The Company maintains a $1 billion five-year unsecured committed revolving credit facility with a syndicate of banks which expires on November 10, 2020. At the Company's election, loans under the Credit Agreement will bear interest at a base rate plus an applicable margin. In addition, the Credit Agreement requires the Company to pay a facility fee and imposes various restrictions on the Company such as, among other things, the requirement for the Company to maintain an interest coverage ratio of consolidated EBITDA to consolidated net interest expense of greater than or equal to 3.0 to 1. The Company was in compliance with all covenants in the Credit Agreement and other long-term debt covenants at December 31, 2018 and had a coverage ratio of 9.6 to 1.0. The Company primarily uses this facility as liquidity back-up for its commercial paper program and has not drawn down any loans under the facility and does not anticipate doing so. The Company generally uses commercial paper borrowings for general corporate purposes, funding of acquisitions and the repurchases of its common stock.

As of December 31, 2018, the future maturities of long-term debt were as follows:

	Future Maturities
2019	$ —
2020	340,369
2021	449,200
2022	—
2023	—
2024 and thereafter	2,154,091
Total	$ 2,943,660

Letters of Credit

As of December 31, 2018, the Company had approximately $144.5 million outstanding in letters of credit and guarantees with financial institutions, which expire on various dates in 2019 through 2028. These letters of credit are primarily maintained as security for insurance, warranty and other performance obligations. In general, the Company would only be liable for the amount of these guarantees in the event of default in the performance of its obligations, the probability of which is believed to be remote.

12. Financial Instruments

Derivatives

The Company is exposed to market risk for changes in foreign currency exchange rates due to the global nature of its operations. In order to manage this risk the Company has hedged portions of its forecasted sales and purchases, which occur within the next twelve months and are denominated in non-functional currencies, with currency forward contracts designated as cash flow hedges. At December 31, 2018 and 2017, the Company had contracts with U.S. dollar equivalent notional amounts of $153,873 and $115,580, respectively, to exchange foreign currencies, principally the Pound Sterling, Chinese yuan, Swedish krona, Euro, and Canadian dollar. The Company believes it is probable that all forecasted cash flow transactions will occur.

In addition, the Company had outstanding contracts at December 31, 2018 and 2017 with a total notional amount of $66,906 and $59,952, respectively, that are not designated as hedging instruments. These instruments are used to reduce the Company's exposure to operating receivables and payables that are denominated in non-functional currencies. Gains and losses on these contracts are recorded in other expense (income), net in the Consolidated Statements of Earnings.

(Amounts in thousands except share data and where otherwise indicated)

The following table sets forth the fair values of derivative instruments held by the Company as of December 31, 2018 and 2017 and the balance sheet lines in which they are recorded:

	Fair Value Asset (Liability)		
	December 31, 2018	December 31, 2017	Balance Sheet Caption
Foreign currency forward	$ 1,874	$ 358	Prepaid/Other assets
Foreign currency forward	(1,165)	(2,243)	Other accrued expenses

For a cash flow hedge, the effective portion of the change in estimated fair value of a hedging instrument is recorded in Other comprehensive earnings (loss), net of tax as a separate component of the Consolidated Statements of Stockholders' Equity and is reclassified into Cost of goods and services in the Consolidated Statements of Earnings during the period in which the hedged transaction is recognized. The amount of gains or losses from hedging activity recorded in earnings is not significant and the amount of unrealized gains and losses from cash flow hedges, which are expected to be reclassified to earnings in the next twelve months, is not significant; therefore, additional tabular disclosures are not presented. There are no amounts excluded from the assessment of hedge effectiveness and the Company's derivative instruments that are subject to credit risk contingent features were not significant.

The Company is exposed to credit loss in the event of nonperformance by counterparties to the financial instrument contracts held by the Company; however, nonperformance by these counterparties is considered unlikely as the Company's policy is to contract with highly-rated, diversified counterparties.

The Company has designated the €300,000 and €600,000 of euro-denominated notes issued December 4, 2013 and November 9, 2016, respectively, as a hedge of a portion of its net investment in euro-denominated operations. Changes in the value of the euro-denominated debt are recognized in foreign currency translation adjustments within other comprehensive earnings (loss) of the Consolidated Statements of Comprehensive Earnings to offset changes in the value of the net investment in euro-denominated operations. Changes in the value of the euro-denominated debt resulting from exchange rate differences are offset by changes in the net investment due to the high degree of effectiveness between the hedging instruments and the exposure being hedged.

Amounts recognized in other comprehensive earnings (loss) for the gains (losses) on its net investment hedges were as follows:

	2018	2017	2016
Gain/(loss) on euro-denominated debt	$ 45,230	$ (125,262)	$ 53,791
Tax (expense)/benefit	(9,498)	43,842	(18,827)
Gain/(loss) on net investment hedges, net of tax	$ 35,732	$ (81,420)	$ 34,964

Fair Value Measurements

Accounting Standards Codification ("ASC") 820, Fair Value Measurements and Disclosures, establishes a fair value hierarchy that requires the Company to maximize the use of observable inputs and minimize the use of unobservable inputs when measuring fair value. A financial instrument's categorization within the hierarchy is based on the lowest level of input that is significant to the fair value measurement. ASC 820 establishes three levels of inputs that may be used to measure fair value as follows:

Level 1 inputs are quoted prices (unadjusted) in active markets for identical assets or liabilities.

Level 2 inputs include inputs other than Level 1 that are observable, either directly or indirectly, such as quoted prices in active markets for similar assets and liabilities, quoted prices for identical or similar assets or liabilities in markets that are not active, or other inputs that are observable or can be corroborated by observable market data for substantially the full term of assets or liabilities.

Level 3 inputs are unobservable inputs in which little or no market data exists, therefore requiring an entity to develop its own assumptions.

DOVER CORPORATION
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS
(Amounts in thousands except share data and where otherwise indicated)

The Company's assets and liabilities measured at fair value on a recurring basis as of December 31, 2018 and 2017 were as follows:

	Level 2	Level 2
Assets:		
Foreign currency cash flow hedges	$ 1,874	$ 358
Liabilities:		
Foreign currency cash flow hedges	1,165	2,243

The derivative contracts are measured at fair value using models based on observable market inputs such as foreign currency exchange rates and interest rates; therefore, they are classified within Level 2 of the fair value hierarchy.

In addition to fair value disclosure requirements related to financial instruments carried at fair value, accounting standards require disclosures regarding the fair value of all of the Company's financial instruments. The estimated fair value of long-term debt at December 31, 2018 and 2017 was $3,132,330 and $3,324,776, respectively, compared to the carrying value of $2,943,660 and $2,986,702, respectively. The estimated fair value of long-term debt is based on quoted market prices for similar instruments and is, therefore, classified as Level 2 within the fair value hierarchy. The carrying values of cash equivalents, trade receivables, accounts payable and notes payable are reasonable estimates of their fair values as of December 31, 2018 and 2017 due to the short-term nature of these instruments.

13. Income Taxes

Income taxes have been based on the following components of Earnings before provision for income taxes and discontinued operations in the Consolidated Statements of Earnings:

	Years Ended December 31,		
	2018	2017	2016
Domestic	$ 344,793	$ 544,900	$ 423,006
Foreign	380,585	330,915	261,638
Total	$ 725,378	$ 875,815	$ 684,644

Income tax expense (benefit) relating to continuing operations for the years ended December 31, 2018, 2017 and 2016 is comprised of the following:

	Years Ended December 31,		
	2018	2017	2016
Current:			
U.S. federal	$ 47,445	$ 188,559	$ 113,591
State and local	14,120	18,857	17,037
Foreign	86,523	43,228	81,034
Total current	148,088	250,644	211,662
Deferred:			
U.S. federal	876	(121,879)	15,355
State and local	626	(1,247)	1,428
Foreign	(15,357)	1,634	(45,929)
Total deferred	(13,855)	(121,492)	(29,146)
Total expense	$ 134,233	$ 129,152	$ 182,516

DOVER CORPORATION
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS
(Amounts in thousands except share data and where otherwise indicated)

Differences between the effective income tax rate and the U.S. federal income statutory tax rate are as follows:

	Years Ended December 31,		
	2018	2017	2016
U.S. federal income tax rate	21.0 %	35.0 %	35.0 %
State and local taxes, net of federal income tax benefit	1.6	1.0	1.8
Foreign operations tax effect	(1.1)	(6.2)	(6.8)
SAB 118	(0.6)	—	—
Domestic manufacturing deduction	—	(1.7)	(1.7)
Foreign tax credits	(0.3)	0.1	(0.2)
Stock options	(2.0)	(1.0)	—
Changes in tax law	—	(6.7)	(1.4)
Disposition of businesses	—	(4.6)	—
Other	(0.1)	(1.2)	—
Effective tax rate from continuing operations	18.5 %	14.7 %	26.7 %

The tax effects of temporary differences that give rise to future deferred tax assets and liabilities are as follows:

	December 31, 2018	December 31, 2017
Deferred Tax Assets:		
Accrued compensation, principally postretirement and other employee benefits	$ 72,795	$ 63,463
Accrued expenses, principally for state income taxes, interest and warranty	30,159	20,400
Net operating loss and other carryforwards	290,629	268,131
Inventories, principally due to reserves for financial reporting purposes and capitalization for tax purposes	19,228	11,659
Accounts receivable, principally due to allowance for doubtful accounts	5,083	6,426
Accrued insurance	1,897	1,264
Long-term liabilities, principally warranty, environmental and exit costs	4,183	5,920
Other assets	(23,533)	(15,467)
Total gross deferred tax assets	400,441	361,796
Valuation allowance	(264,398)	(238,236)
Total deferred tax assets, net of valuation allowances	136,043	123,560
Deferred Tax Liabilities:		
Intangible assets, principally due to different tax and financial reporting bases and amortization lives	(394,851)	(406,197)
Property, plant and equipment, principally due to differences in depreciation	(49,380)	(37,783)
Accounts receivable	(1,704)	(4,654)
Total gross deferred tax liabilities	(445,935)	(448,634)
Net deferred tax liability	$ (309,892)	$ (325,074)
Classified as follows in the Consolidated Balance Sheets:		
Other assets and deferred charges	$ 29,433	$ 23,127
Deferred income taxes	(339,325)	(348,201)
	$ (309,892)	$ (325,074)

As of December 31, 2018, the Company had non-U.S loss carryforwards of $1,048 million primarily resulting from non-operating activities. The entire balance of the non-U.S. losses as of December 31, 2018 is available to be carried forward, with $150.6 million of these losses beginning to expire during the years 2019 through 2038. The remaining $897.5 million of such losses can be carried forward indefinitely.

The Company has $62.9 million and $59.8 million of state tax loss carryforwards as of December 31, 2018 and 2017, respectively that are available for use by the Company between 2019 and 2038.

DOVER CORPORATION
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS
(Amounts in thousands except share data and where otherwise indicated)

The Company maintains valuation allowances by jurisdiction against the deferred tax assets related to certain of these carryforwards as utilization of these tax benefits is not assured for certain jurisdictions.

On December 22, 2017, the Tax Reform Act was enacted which permanently reduced the U.S. corporate income tax rate from a maximum of 35% to a flat 21% rate, effective January 1, 2018. As a result of the reduction in the U.S. corporate income tax rate, the Company revalued its ending net deferred tax liabilities as of December 31, 2017 and recognized a provisional tax benefit of $172.0 million. The Tax Reform Act also imposed a tax for a one-time deemed repatriation of post-1986 unremitted foreign earning and profit through the year ended December 31, 2018. As of December 31, 2017, the Company recorded provisional tax expense related to the deemed repatriation of $111.6 million payable over eight years. The GILTI provisions of the Tax Reform Act require the Company to include in its U.S. income tax return foreign subsidiary earnings in excess of an allowable return on the foreign subsidiary's tangible assets.

On December 22, 2017, the SEC staff issued SAB 118 to address the application of U.S. GAAP in situations when a registrant does not have the necessary information available, prepared, or analyzed (including computations) in reasonable detail to complete the accounting for certain income tax effects of the Tax Reform Act. In accordance with the SAB 118 guidance, the Company recognized the provisional tax impacts related to deemed repatriated earnings and the benefit for the revaluation of deferred tax assets and liabilities in its consolidated financial statements for the year ended December 31, 2017. In accordance with SAB 118, the Company finalized the financial reporting impact of the Tax Reform Act in the fourth quarter of 2018. For the year ended December 31, 2018, the Company recorded a $4.2 million net tax benefit, which resulted in a 0.6% decrease in the effective tax rate, as an adjustment to the provisional estimates as a result of additional regulatory guidance and changes in interpretations and assumptions the Company has made as a result of the Tax Reform Act.

Unrecognized Tax Benefits

The Company files U.S. federal, state, local and foreign tax returns. The Company is routinely audited by the tax authorities in these jurisdictions, and a number of audits are currently underway. It is reasonably possible during the next twelve months that uncertain tax positions may be settled, which could result in a decrease in the gross amount of unrecognized tax benefits. This decrease may result in an income tax benefit. Due to the potential for resolution of federal, state and foreign examinations, and the expiration of various statutes of limitation, the Company's gross unrecognized tax benefits balance may change within the next twelve months by a range of zero to $12.5 million. The Company is no longer subject to examinations of its federal income tax returns through 2014. All significant state, local and international matters have been concluded through 2012. The Company believes adequate provision has been made for all income tax uncertainties.

The following table is a reconciliation of the beginning and ending balances of the Company's unrecognized tax benefits:

	Total
Unrecognized tax benefits at January 1, 2016	$ 66,088
Additions based on tax positions related to the current year	7,929
Additions for tax positions of prior years	9,076
Reductions for tax positions of prior years	(3,067)
Cash settlements	(3,106)
Lapse of statutes	(6,605)
Unrecognized tax benefits at December 31, 2016	70,315
Additions based on tax positions related to the current year	14,466
Additions for tax positions of prior years	4,105
Reductions for tax positions of prior years	(9,653)
Cash settlements	(954)
Lapse of statutes	(10,245)
Unrecognized tax benefits at December 31, 2017	68,034
Additions based on tax positions related to the current year	15,580
Additions for tax positions of prior years	29,637
Reductions for tax positions of prior years	(5,226)
Cash settlements	(7,345)
Lapse of statutes	(7,219)
Unrecognized tax benefits at December 31, 2018 (1)	$ 93,461

DOVER CORPORATION
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS
(Amounts in thousands except share data and where otherwise indicated)

(1) If recognized, the net amount of potential tax benefits that would impact the Company's effective tax rate is $85.4 million. During the years ended December 31, 2018, 2017 and 2016, the Company recorded expense (income) of $2.4 million, $(0.5) million and $0.7 million, respectively, as a component of provision for income taxes related to the accrued interest and penalties on unrecognized tax benefits. The Company had accrued interest and penalties of $18.8 million at December 31, 2018 and $16.5 million at December 31, 2017, which are not included in the above table.

14. Equity and Cash Incentive Program

The Company's share-based awards are typically granted annually at its regularly scheduled first quarter Compensation Committee meeting. Additionally, in the second quarter, the Company granted equity awards to its new President and Chief Executive Officer. Awards made pursuant to the terms of the Company's 2012 Equity and Cash Incentive Plan (the "2012 Plan"), which was approved by shareholders on May 3, 2012. This plan replaced the 2005 Equity and Cash Incentive Plan (the "2005 Plan"), which would have otherwise terminated according to its terms on January 31, 2015 and the 1996 Non-Employee Directors Stock Compensation Plan (the "Directors Plan"), which would have otherwise terminated according to its terms on December 31, 2012. Upon adoption of the 2012 Plan, no additional awards could be granted under the 2005 Plan. Officers and other key employees, as well as non-employee directors, are eligible to participate in the 2012 Plan, which has a ten-year term and will terminate on May 3, 2022. The 2012 Plan provides for stock options and SARs grants, restricted stock awards, restricted stock unit awards, performance share awards, cash performance awards, directors' shares and deferred stock units. Under the 2012 Plan, a total of 17,000,000 shares of common stock are reserved for issuance, subject to adjustments resulting from stock dividends, stock splits, recapitalizations, reorganizations and other similar changes.

The exercise price per share for SARs is equal to the closing price of the Company's stock on the New York Stock Exchange on the date of grant. New common shares are issued when SARs are exercised. The period during which SARs are exercisable is fixed by the Company's Compensation Committee at the time of grant. Generally, the SARs vest after three years of service and expire at the end of ten years.

In addition, in connection with the separation of Apergy, the Company modified the outstanding equity awards for its employees. The awards were modified such that all individuals received an equivalent fair value both before and after the separation of Apergy. This modification resulted in the issuance of an additional 1,138,008 SARs, 26,316 performance shares, and 47,063 RSUs. The exercise price of these outstanding awards, where applicable, was adjusted to preserve the value of the awards immediately prior to the separation. As no incremental fair value was awarded as a result of the issuance of these additional shares, the modification did not result in additional compensation expense.

Stock-based compensation costs are reported within Selling, general and administrative expenses in the Consolidated Statements of Earnings. The following table summarizes the Company's compensation expense relating to all stock-based incentive plans:

	Years Ended December 31,		
	2018	2017	2016
Pre-tax stock-based compensation expense (continuing)	$ 23,698	$ 24,073	$ 18,650
Tax benefit	(2,722)	(8,411)	(6,579)
Total stock-based compensation expense, net of tax	$ 20,976	$ 15,662	$ 12,071

Pre-tax stock-based compensation expense attributable to Apergy employees for the year ended December 31, 2018, 2017 and 2016 was $744, $2,454 and $2,366, respectively. These costs are reported within earnings from discontinued operations in the Condensed Consolidated Statement of Earnings.

On January 1, 2017, the Company adopted ASU 2016-09, Compensation: Stock Compensation (Topic 718). The adoption of the new standard resulted in the recognition of excess tax benefits in the Company's provision for income taxes within the Consolidated Statements of Earnings rather than paid-in capital of $14,759 and $8,365 for the years ended December 31, 2018 and 2017, respectively. The Company recognized a net tax benefit of $4,964 during 2016 for the exercise of SARs, restricted stock awards, restricted stock unit awards and performance share awards. These benefits for 2016 have been recorded as an increase to additional paid-in capital and are reflected as financing cash inflows in the Consolidated Statements of Cash Flows.

(Amounts in thousands except share data and where otherwise indicated)

SARs

In 2018, 2017 and 2016, the Company issued SARs covering 757,603, 1,028,116 and 1,346,354 shares, respectively. Since 2006, the Company has only issued SARs and does not anticipate issuing stock options in the future. The fair value of each SAR grant was estimated on the date of grant using a Black-Scholes option-pricing model with the following assumptions:

	2018	2017	2016
Risk-free interest rate	2.58 % - 2.87%	1.80 %	1.05 %
Dividend yield	1.99 % - 2.43%	2.27 %	3.09 %
Expected life (years)	5.6 - 5.7	4.6	4.6
Volatility	20.95 % - 21.20%	21.90 %	26.17 %
Grant price [(1)]	$79.75 - $82.09	$ 66.85	$ 48.28
Fair value at date of grant [(1)]	$14.58 - $15.41	$ 10.65	$ 7.80

[(1)] Updated to reflect the modification of grants in connection with the separation of Apergy on May 9, 2018.

Expected volatilities are based on Dover's stock price history, including implied volatilities from traded options on Dover stock. The Company uses historical data to estimate SAR exercise and employee termination patterns within the valuation model. The expected life of SARs granted is derived from the output of the option valuation model and represents the average period of time that SARs granted are expected to be outstanding. The interest rate for periods within the contractual life of the awards is based on the U.S. Treasury yield curve in effect at the time of grant.

A summary of activity relating to SARs granted under the 2012 Plan and the predecessor plans for the year ended December 31, 2018 is as follows:

	SARs		
	Number of Shares	Weighted Average Exercise Price	Weighted Average Remaining Contractual Term (Years)
Outstanding at January 1, 2018	6,573,979	$ 62.78	
Granted [(1)]	757,603	81.43	
Surrendered upon spin-off [(2)]	(210,119)	68.36	
Modification upon spin-off [(3)]	1,138,008	—	
Forfeited / expired	(438,014)	68.76	
Exercised	(2,492,253)	47.17	
Outstanding at December 31, 2018	5,329,204	60.19	6.2
Exercisable at December 31, 2018	2,661,980	$ 57.26	4.5

[(1)] Weighted average grant-date fair value updated to reflect the modification of grants in connection with the separation of Apergy on May 9, 2018.

[(2)] In connection with the spin-off on May 9, 2018, Apergy employees surrendered their outstanding Dover equity awards, which were then converted to Apergy equity awards.

[(3)] Subsequent to the separation of Apergy, the Company modified its outstanding equity awards to employees such that all individuals received an equivalent fair value both before and after the separation, which resulted in a lower exercise price for all outstanding equity awards at the time of modification.

(Amounts in thousands except share data and where otherwise indicated)

The following table summarizes information about outstanding SARs at December 31, 2018:

	SARs Outstanding				SARs Exercisable			
Range of Exercise Prices	Number of Shares	Weighted Average Exercise Price	Weighted Average Remaining Life in Years	Aggregate Intrinsic Value	Number of Shares	Weighted Average Exercise Price	Weighted Average Remaining Life in Years	Aggregate Intrinsic Value
$21.89 - $37.79	135,497	$ 29.61	0.9	$ 5,601	135,497	$ 29.61	0.9	$ 5,601
$40.54 - $58.69	2,323,949	$ 50.13	5.3	48,394	1,233,688	$ 31.87	3.6	23,646
$61.79 - $82.51	2,869,758	$ 69.79	7.3	10,881	1,292,795	$ 65.33	5.7	7,368
	5,329,204			$ 64,876	2,661,980			$ 36,615

Unrecognized compensation expense related to SARs not yet exercisable was $8,315 at December 31, 2018. This cost is expected to be recognized over a weighted average period of 1.8 years.

Other information regarding the exercise of SARs is listed below:

	2018	2017	2016
SARs			
Fair value of SARs that became exercisable	$ 12,832	$ 16,006	$ 24,843
Aggregate intrinsic value of SARs exercised	$ 101,365	$ 44,646	$ 34,916

Performance Share Awards

Performance share awards granted are expensed over the three-year requisite performance and service period. Awards become vested if (1) the Company achieves certain specified internal metrics and (2) the employee remains continuously employed by the Company during the performance period. Partial vesting may occur after separation from service in the case of certain terminations not for cause and for retirements.

In 2018, 2017 and 2016, the Company issued performance shares covering 122,459, 57,958 and 79,561 shares, respectively. The performance share awards granted in these years are considered performance condition awards as attainment is based on Dover's performance relative to established internal metrics. The fair value of these awards was determined using Dover's closing stock price on the date of grant. The expected attainment of the internal metrics for these awards is analyzed each reporting period, and the related expense is adjusted up or down based on expected attainment, if that attainment differs from previous estimates. The cumulative effect on current and prior periods of a change in attainment is recognized in Selling, general and administrative expenses in the Consolidated Statements of Earnings in the period of change.

The fair value and average attainment used in determining compensation cost of the performance shares issued in 2018, 2017 and 2016 are as follows for the year ended December 31, 2018:

	Performance shares		
	2018	2017	2016
Fair value per share at date of grant [(1)]	$79.75 - $82.09	$66.85	$48.28
Average attainment rate reflected in expense	285.39 %	280.00 %	34.61 %

[(1)] Updated to reflect the modification of grants in connection with the separation of Apergy on May 9, 2018.

(Amounts in thousands except share data and where otherwise indicated)

A summary of activity for performance share awards for the year ended December 31, 2018 is as follows:

	Number of Shares	Weighted Average Grant-Date Fair Value
Unvested at January 1, 2018	124,467	$ 65.80
Granted [(1)]	122,459	80.30
Surrendered upon spin-off [(2)]	(10,683)	67.39
Modification upon spin-off [(3)]	26,316	—
Forfeited	(57,015)	67.88
Vested	(60,587)	48.27
Unvested at December 31, 2018	144,957	$ 76.99

[(1)] Weighted average grant-date fair value updated to reflect the modification of grants in connection with the separation of Apergy on May 9, 2018.

[(2)] In connection with the spin-off on May 9, 2018, Apergy employees surrendered their outstanding Dover equity awards, which were then converted to Apergy equity awards.

[(3)] Subsequent to the separation of Apergy, the Company modified its outstanding equity awards to employees such that all individuals received an equivalent fair value both before and after the separation.

Unrecognized compensation expense related to unvested performance shares as of December 31, 2018 was $21,603, which will be recognized over a weighted average period of 1.9 years.

Restricted Stock Units

The Company also has restricted stock authorized for grant (as part of the 2012 Plan). Under this Plan, common stock of the Company may be granted at no cost to certain officers and key employees. In general, restrictions limit the sale or transfer of these shares during a three-year period, and restrictions lapse proportionately over the three-year period. The Company granted 284,721, 174,203 and 249,263 of restricted stock units in 2018, 2017 and 2016, respectively. The fair value of these awards was determined using Dover's closing stock price on the date of grant.

A summary of activity for restricted stock units for the year ended December 31, 2018 is as follows:

	Number of Shares	Weighted Average Grant-Date Fair Value
Unvested at January 1, 2018	333,886	$ 70.06
Granted [(1)]	284,721	80.59
Surrendered upon spin-off [(2)]	(26,762)	70.21
Modification upon spin-off [(3)]	47,063	—
Forfeited	(58,436)	69.66
Vested	(189,991)	70.06
Unvested at December 31, 2018	390,481	$ 73.35

[(1)] Weighted average grant-date fair value updated to reflect the modification of grants in connection with the separation of Apergy on May 9, 2018.

[(2)] In connection with the spin-off on May 9, 2018, Apergy employees surrendered their outstanding Dover equity awards, which were then converted to Apergy equity awards.

[(3)] Subsequent to the separation of Apergy, the Company modified its outstanding equity awards to employees such that all individuals received an equivalent fair value both before and after the separation.

Unrecognized compensation expense relating to unvested restricted stock units as of December 31, 2018 was $18,987, which will be recognized over a weighted average period of 1.9 years.

(Amounts in thousands except share data and where otherwise indicated)

Directors' Shares

The Company issued the following shares to its non-employee directors under the 2012 Plan as partial compensation for serving as directors of the Company:

	Years ended December 31,		
	2018	**2017**	**2016**
Aggregate shares granted	15,802	16,231	21,023
Shares deferred	(9,917)	(11,337)	(11,882)
Net shares issued	5,885	4,894	9,141

15. Commitments and Contingent Liabilities

Lease Commitments

The Company leases certain facilities and equipment under operating leases, many of which contain renewal options. Total rental expense, net of insignificant sublease rental income, for all operating leases was $78,674, $76,177 and $69,393 for the years ended December 31, 2018, 2017 and 2016, respectively. Contingent rentals under the operating leases were not significant.

The aggregate future minimum lease payments for operating and capital leases as of December 31, 2018 are as follows:

	Operating	Capital
2019	$ 49,009	$ 1,802
2020	38,620	1,748
2021	29,396	1,687
2022	21,767	1,392
2023	13,994	4,754
Thereafter	42,087	—
Total	$ 194,873	$ 11,383

Guarantees

The Company has provided typical indemnities in connection with sales of certain businesses and assets, including representations and warranties and related indemnities for environmental, health and safety, tax and employment matters. The Company does not have any material liabilities recorded for these indemnifications and is not aware of any claims or other information that would give rise to material payments under such indemnities.

Product Recall

During the fourth quarter of 2016, the Company determined that there was a quality issue with a product component part in the Fluids segment and voluntarily reported this issue to the U.S. Consumer Product Safety Commission (“CPSC”). The Company recorded warranty expense of $23,150 in costs of goods and services in the Consolidated Statement of Earnings for the year ended December 31, 2016. During the first quarter of 2017, the Company announced a voluntary recall of the product in collaboration with the CPSC. The warranty accrual was $497 and $6,613 in other accrued expenses in the Consolidated Balance Sheets at December 31, 2018 and 2017, respectively.

Litigation

A few of the Company’s subsidiaries are involved in legal proceedings relating to the cleanup of waste disposal sites identified under federal and state statutes which provide for the allocation of such costs among “potentially responsible parties.” In each instance, the extent of the Company’s liability appears to be relatively insignificant in relation to the total projected expenditures and the number of other “potentially responsible parties” involved and is anticipated to be immaterial to the Company. In addition, a few of the Company’s subsidiaries are involved in ongoing remedial activities at certain current and former plant sites, in cooperation with regulatory agencies, and appropriate reserves have been established. At

December 31, 2018 and 2017, the Company has reserves totaling $31,797 and $34,991, respectively, for environmental and other matters, including private party claims for exposure to hazardous substances, that are probable and estimable.

The Company and some of its subsidiaries are also parties to a number of other legal proceedings incidental to their businesses. These proceedings primarily involve claims by private parties alleging injury arising out of use of the Company's products, exposure to hazardous substances, patent infringement, employment matters and commercial disputes. Management and legal counsel, at least quarterly, review the probable outcome of such proceedings, the costs and expenses reasonably expected to be incurred and currently accrued to-date and consider the availability and extent of insurance coverage. The Company has reserves for other legal matters that are probable and estimable, and at December 31, 2018 and 2017, these reserves were not significant. While it is not possible at this time to predict the outcome of these legal actions, in the opinion of management, based on the aforementioned reviews, the Company is not currently involved in any legal proceedings which, individually or in the aggregate, could have a material effect on its financial position, results of operations, or cash flows.

16. Employee Benefit Plans

The Company offers defined contribution retirement plans which cover the majority of its U.S. employees, as well as employees in certain other countries. The Company's expense relating to defined contribution plans was $46,030, $43,447 and $37,065 for the years ended December 31, 2018, 2017 and 2016, respectively. Revisions were made to the 2017 and 2016 defined contribution expenses and impacted only the disclosure as the costs were appropriately included in the Consolidated Statement of Earnings. The revisions were not material to the prior annual periods.

The Company sponsors qualified defined benefit pension plans covering certain employees of the Company and its subsidiaries. The plans' benefits are generally based on years of service and employee compensation. The Company also provides to certain management employees, through non-qualified plans, supplemental retirement benefits in excess of qualified plan limits imposed by federal tax law.

In July 2013, the Company announced that, after December 31, 2013, the U.S. qualified and non-qualified defined benefit plans would be closed to new employees. All pension-eligible employees as of December 31, 2013 will continue to earn a pension benefit through December 31, 2023 as long as they remain employed by an operating company participating in the impacted plans. The Company also announced that effective January 1, 2024, the plans would be frozen to any future benefit accruals.

In connection with the spin-off, assets and liabilities related to the Norris USW participants were moved to a new plan sponsored by Apergy. Assets and liabilities of several non-U.S. qualified and U.S. non-qualified plans were also transferred to Apergy. Apergy participants (other than Norris USW participants) in the Dover U.S. pension plan (the "Plan") fully vested in their benefits and ceased accruing future benefits. The separation of Apergy triggered a pension plan curtailment which required a re-measurement of the Plan's benefit obligation in the second quarter, assuming a discount rate of 4.2% and an expected return on assets of 6.8%. The Plan retained the obligation and participants were able to elect lump-sum payments from plan assets. In 2018, the Plan made total lump sum payments of $74,016. Based on the total lump sum payments made to both Apergy and other participants in the plan during the year and the second quarter re-measurement, the Company recorded non-cash settlement and curtailment charges of approximately $13,939 in 2018, of which $9,200 was classified within discontinued operations.

The Company also maintains other post-retirement benefit plans which cover approximately 409 participants, approximately 386 of whom are eligible for medical benefits. These plans are closed to new entrants. The supplemental and other post-retirement benefit plans are supported by the general assets of the Company.

(Amounts in thousands except share data and where otherwise indicated)

Obligations and Funded Status

The following tables summarize the Consolidated Balance Sheets impact, including the benefit obligations, assets and funded status associated with the Company's significant defined benefit and other post-retirement benefit plans at December 31, 2018 and 2017.

	Qualified Defined Benefits				Non-Qualified Supplemental Benefits		Other Post-Retirement Benefits	
	U.S. Plan		Non-U.S. Plans					
	2018	2017	2018	2017	2018	2017	2018	2017
Change in benefit obligation:								
Benefit obligation at beginning of year	$ 566,389	$ 535,299	$ 278,188	$ 243,483	$ 106,012	$ 110,446	$ 8,595	$ 12,263
Service cost	9,019	12,083	5,359	5,688	2,624	2,473	30	68
Interest cost	20,756	21,718	4,962	5,263	3,204	4,076	290	783
Plan participants' contributions	—	—	1,279	1,237	—	—	—	—
Benefits paid	(18,172)	(38,490)	(8,161)	(8,528)	(19,352)	(11,576)	(620)	(917)
Actuarial (gain) loss	(48,104)	35,446	(19,533)	8,812	(7,687)	593	(446)	946
Business acquisitions	—	—	—	1,810	—	—	—	—
Amendments	69	364	3,073	—	—	—	—	(4,646)
Settlements and curtailments	(78,896)	(32)	(1,813)	—	(2,289)	—	—	—
Currency translation and other	—	1	21,554	20,423	—	—	—	98
Spin-off of Apergy	(3,888)	—	(14,579)	—	(15,676)	—	—	—
Benefit obligation at end of year	447,173	566,389	270,329	278,188	66,836	106,012	7,849	8,595
Change in plan assets:								
Fair value of plan assets at beginning of year	617,840	562,564	175,534	148,514	—	—	—	—
Actual (loss) return on plan assets	(32,939)	93,766	(8,490)	15,849	—	—	—	—
Company contributions	—	—	5,961	7,971	19,352	11,576	620	917
Plan participants' contributions	—	—	1,279	1,237		—		—
Benefits paid	(18,172)	(38,490)	(8,161)	(8,528)	(19,352)	(11,576)	(620)	(917)
Settlements and curtailments	(74,016)	—	(1,472)	—	—	—	—	—
Currency translation and other	—	—	11,223	10,491	—	—	—	—
Spin-off of Apergy	(3,813)	—	(13,285)	—	—	—	—	—
Fair value of plan assets at end of year	488,900	617,840	162,589	175,534	—	—	—	—
Funded (Unfunded) status	$ 41,727	$ 51,451	$ (107,740)	$ (102,654)	$ (66,836)	$ (106,012)	$ (7,849)	$ (8,595)
Amounts recognized in the consolidated balance sheets consist of:								
Assets and Liabilities:								
Other assets and deferred charges	$ 41,727	$ 51,451	$ 919	$ 890	$ —	$ —	$ —	$ —
Accrued compensation and employee benefits	—	—	(1,493)	(1,484)	(13,219)	(15,903)	(702)	(706)
Other liabilities (deferred compensation)	—	—	(107,166)	(102,172)	(53,617)	(75,911)	(7,147)	(7,889)
Assets (liabilities) of discontinued operations	—	—	—	112	—	(14,198)	—	—
Total assets and liabilities	41,727	51,451	(107,740)	(102,654)	(66,836)	(106,012)	(7,849)	(8,595)
Accumulated Other Comprehensive Loss (Earnings):								
Net actuarial losses (gains)	81,437	79,288	66,480	69,490	(25,186)	(13,780)	(1,164)	(748)
Prior service cost (credit)	852	1,344	(72)	(3,500)	9,099	13,777	71	84
Net asset at transition, other	—	—	—	(60)	—	—	—	—
Deferred taxes	(17,597)	(30,777)	(14,861)	(14,982)	3,461	83	412	322
Total accumulated other comprehensive loss (earnings), net of tax	64,692	49,855	51,547	50,948	(12,626)	80	(681)	(342)
Net amount recognized at December 31,	$ 106,419	$ 101,306	$ (56,193)	$ (51,706)	$ (79,462)	$ (105,932)	$ (8,530)	$ (8,937)
Accumulated benefit obligations	$ 438,005	$ 547,278	$ 258,109	$ 264,766	$ 60,080	$ 96,612		

(Amounts in thousands except share data and where otherwise indicated)

The Company's net unfunded status at December 31, 2018 and 2017 includes net liabilities of $107,740 and $102,654, respectively, relating to the Company's significant international qualified plans, some in locations where it is not economically advantageous to pre-fund the plans due to local regulations. The majority of the international obligations relate to defined pension plans operated by the Company's businesses in Germany, the United Kingdom and Switzerland.

The accumulated benefit obligation for all defined benefit pension plans was $756,194 and $908,656 at December 31, 2018 and 2017, respectively. Pension plans with accumulated benefit obligations in excess of plan assets consist of the following at December 31, 2018 and 2017:

	2018	2017
Projected benefit obligation (PBO)	$ 330,168	$ 372,559
Accumulated benefit obligation (ABO)	311,192	349,735
Fair value of plan assets	154,673	162,890

Net Periodic Benefit Cost

Components of the net periodic benefit cost were as follows:

Defined Benefit Plans

	Qualified Defined Benefits						Non-Qualified Supplemental Benefits		
	U.S. Plan			Non-U.S. Plans					
	2018	2017	2016	2018	2017	2016	2018	2017	2016
Service cost	$ 9,019	$ 12,083	$ 13,913	$ 5,359	$ 5,688	$ 5,590	$ 2,624	$ 2,473	$ 2,959
Interest cost	20,756	21,718	23,046	4,962	5,263	5,593	3,204	4,076	5,268
Expected return on plan assets	(39,045)	(39,812)	(38,793)	(7,675)	(7,417)	(7,830)	—	—	—
Amortization of:									
Prior service cost (credit)	298	427	733	(449)	(425)	(397)	3,770	4,411	6,266
Recognized actuarial loss (gain)	3,102	5,582	6,437	2,952	3,506	2,658	(1,132)	(1,192)	(560)
Transition obligation	—	—	—	1	4	4	—	—	—
Settlement and curtailment loss (gain)	13,939 (1)	76	—	7	678	1,103	(1,381)	—	—
Other	—	—	35	—	—	—	—	—	—
Net periodic benefit expense	$ 8,069	$ 74	$ 5,371	$ 5,157	$ 7,297	$ 6,721	$ 7,085	$ 9,768	$ 13,933
Less: Discontinued operations	10,109 (1)	3,383	4,237	114	810	974	279	1,226	1,222
Net periodic (income) expense - Continuing operations	$ (2,040)	$ (3,309)	$ 1,134	$ 5,043	$ 6,487	$ 5,747	$ 6,806	$ 8,542	$ 12,711

(1) $9.2 million of the total settlement and curtailment loss on the U.S. Plan is attributable to Apergy participants in the Dover Defined Benefit Plan and has therefore, been reflected in the results of discontinued operations.

Other Post-Retirement Benefits

	2018	2017	2016
Service cost	$ 30	$ 68	$ 52
Interest cost	290	783	403
Amortization of:			
Prior service cost	13	7	7
Recognized actuarial (gain) loss	(30)	(161)	5
Settlement and curtailment gain	—	(4,598)	—
Net periodic expense (benefit)	$ 303	$ (3,901)	$ 467

The curtailment gain in 2017 relates primarily to the impact of an amendment to the post-retirement plan in Brazil.

(Amounts in thousands except share data and where otherwise indicated)

Amounts expected to be amortized from accumulated other comprehensive earnings (loss) into net periodic benefit cost during 2019 are as follows:

	Qualified Defined Benefits		Non-Qualified Supplemental Benefits	Other Post-Retirement Benefits
	U.S. Plan	Non-U.S. Plans		
Amortization of:				
Prior service cost (credit)	$ 303	$ (238)	$ 2811	$ 13
Recognized actuarial loss (gain)	—	3,241	(2,280)	(70)
Transition obligation	—	—	—	—
Total	$ 303	$ 3,003	$ 531	$ (57)

Assumptions

The Company determines actuarial assumptions on an annual basis. The weighted average assumptions used in determining the benefit obligations were as follows:

	Qualified Defined Benefits				Non-Qualified Supplemental Benefits		Other Post-Retirement Benefits	
	U.S. Plan		Non-U.S. Plans					
	2018	2017	2018	2017	2018	2017	2018	2017
Discount rate	4.35 %	3.65 %	1.83 %	1.94 %	4.30 %	3.57 %	4.15 %	3.50 %
Average wage increase	4.50 %	4.00 %	2.10 %	2.33 %	4.50 %	4.50 %	na	na
Ultimate medical trend rate	na	na	na	na	na	na	5.00 %	2.33 %

The weighted average assumptions used in determining the net periodic benefit cost were as follows:

	Qualified Defined Benefits						Non- Qualified Supplemental Benefits			Other Post-Retirement Benefits		
	U.S. Plan			Non-U.S. Plans								
	2018	2017	2016	2018	2017	2016	2018	2017	2016	2018	2017	2016
Discount rate	4.2%/3.65% (1)	4.10 %	4.40 %	1.94 %	2.06 %	2.32 %	3.57 %	3.97 %	4.18 %	3.50	6.49 %	4.00 %
Average wage increase	4.00 %	4.00 %	4.00 %	2.33 %	2.34 %	2.25 %	4.50 %	4.50 %	4.50 %	na	na	na
Expected return on plan assets	6.8%/7.25% (1)	7.25 %	7.25 %	4.66 %	4.73 %	4.95 %	na	na	na	na	na	na

(1) The separation of Apergy triggered a pension plan curtailment which required a re-measurement of the Plan's benefit obligation in the second quarter 2018, assuming a discount rate of 4.2% and an expected return on assets of 6.8%.

The Company's discount rate assumption is determined by developing a yield curve based on high quality corporate bonds with maturities matching the plans' expected benefit payment streams. The plans' expected cash flows are then discounted by the resulting year-by-year spot rates. The remeasurement in the second quarter of 2018, triggered by the Apergy spin-off, resulted in an increase to the discount rate used in determining net periodic benefit cost from 3.65% to 4.20% for the balance of 2018.

For other post-retirement benefit measurement purposes, a 7.00% annual rate of increase in the per capita cost of covered benefits (i.e., health care cost trend rates) was assumed for 2019. The rate was assumed to decrease gradually to 5.00% by the year 2027 and remain at that level thereafter. The health care cost trend rate assumption can have an effect on the amounts reported. For example, increasing (decreasing) the assumed health care cost trend rates by one percentage point in each year would increase (decrease) the accumulated other post-retirement benefit obligation as of December 31, 2018 by $75 and $(68), respectively, and would have a negligible impact on the net post-retirement benefit cost for 2018.

Plan Assets

The primary financial objective of the plans is to secure participant retirement benefits. Accordingly, the key objective in the plans' financial management is to promote stability and, to the extent appropriate, growth in the funded status. Related and supporting financial objectives are established in conjunction with a review of current and projected plan financial requirements.

(Amounts in thousands except share data and where otherwise indicated)

As it relates to the funded defined benefit pension plans, the Company’s funding policy is consistent with the funding requirements of the Employment Retirement Income Security Act ("ERISA") and applicable international laws. The Company is responsible for overseeing the management of the investments of the plans’ assets and otherwise ensuring that the plans’ investment programs are in compliance with ERISA, other relevant legislation and related plan documents. Where relevant, the Company has retained professional investment managers to manage the plans’ assets and implement the investment process. The investment managers, in implementing their investment processes, have the authority and responsibility to select appropriate investments in the asset classes specified by the terms of their applicable prospectus or investment manager agreements with the plans.

The assets of the plans are invested to achieve an appropriate return for the plans consistent with a prudent level of risk. The asset return objective is to achieve, as a minimum over time, the passively managed return earned by market index funds, weighted in the proportions outlined by the asset class exposures identified in the plans’ strategic allocation. The expected return on assets assumption used for pension expense is developed through analysis of historical market returns, statistical analysis, current market conditions and the past experience of plan asset investments. Overall, it is projected that the investment of plan assets within Dover’s U.S. defined benefit plan will achieve a net return over time from the asset allocation strategy of 6.80%.

The Company’s actual and target weighted average asset allocation for our U.S. Corporate Pension Plan was as follows:

	2018	2017	Current Target
Equity securities	36 %	57 %	40 %
Fixed income	55 %	33 %	55 %
Real estate and other	9 %	10 %	5 %
Total	100 %	100 %	100 %

While the non-U.S. investment policies are different for each country, the long-term objectives are generally the same as for the U.S. pension assets. The Company's non-U.S. plans were expected to achieve rates of return on invested assets of 4.66% in 2018, 4.73% in 2017 and 4.95% in 2016.

The fair values of both U.S. and non-U.S. pension plan assets by asset category within the fair value hierarchy (as defined in Note 12 — Financial Instruments) were as follows:

	U.S. Qualified Defined Benefits Plan					
	12/31/2018			12/31/2017		
	Level 1	Level 2	Total Fair Value	Level 1	Level 2	Total Fair Value
Corporate bonds	—	150,179	150,179	—	74,509	74,509
Government securities	1,586	113,931	115,517	2,766	130,774	133,540
Interest-bearing cash and short-term investments	2,066	—	2,066	1,222	—	1,222
Total investments at fair value	3,652	264,110	267,762	3,988	205,283	209,271
Investments measured at net asset value*						
Collective funds	—	—	175,963	—	—	352,481
Real estate investments	—	—	32,686	—	—	48,294
Short-term investment funds	—	—	12,489	—	—	7,794
Total investments	3,652	264,110	488,900	3,988	205,283	617,840

The Company had no level 3 U.S. Plan assets at December 31, 2018 and 2017.

DOVER CORPORATION
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS
(Amounts in thousands except share data and where otherwise indicated)

	Non-U.S. Plans							
	12/31/2018				12/31/2017			
	Level 1	Level 2	Level 3	Total Fair Value	Level 1	Level 2	Level 3	Total Fair Value
Common stocks	$ 28,528	$ —	$ —	$ 28,528	$ 28,761	$ —	$ —	$ 28,761
Fixed income investments	—	27,797	—	27,797	—	29,612	—	29,612
Mutual funds	23,438	—	—	23,438	34,075	4,642	—	38,717
Cash and cash equivalents	470	—	—	470	4,633	—	—	4,633
Other	—	2,390	21,283	23,673	—	3,088	4,592	7,680
Total investments at fair value	$ 52,436	$ 30,187	$ 21,283	$ 103,906	$ 67,469	$ 37,342	$ 4,592	$ 109,403
Investments measured at net asset value*								
Collective funds	—	—	—	54,505	—	—	—	61,648
Other	—	—	—	4,178	—	—	—	4,483
Total	$ 52,436	$ 30,187	$ 21,283	$ 162,589	$ 67,469	$ 37,342	$ 4,592	$ 175,534

* In accordance with Fair Value Measurement Topic 820 (Subtopic 820-10), certain investments that are measured at fair value using the net asset value per share (or its equivalent) as a practical expedient were not classified in the fair value hierarchy. These are included to permit reconciliation of the fair value hierarchy to the aggregate pension plan assets.

Common stocks represent investments in domestic and foreign equities, which are publicly traded on active exchanges and are valued based on quoted market prices.

Fixed income investments include U.S. Treasury bonds and notes, which are valued based on quoted market prices, as well as investments in other government and municipal securities and corporate bonds, which are valued based on yields currently available on comparable securities of issuers with similar credit ratings.

Mutual funds are categorized as either Level 1, 2 or Net Asset Value (the "NAV") as a practical expedient depending on the nature of the observable inputs. Collective trusts and real estate investment funds are valued using NAV as a practical expedient as of the last business day of the year. The NAV is based on the underlying value of the assets owned by the fund, minus its liabilities, and then divided by the number of shares outstanding. The value of the underlying assets is based on quoted prices in active markets.

The methods described above may produce a fair value calculation that may not be indicative of net realizable value or reflective of future fair values. Furthermore, while the Company believes its valuation methods are appropriate and consistent with other market participants, the use of different methodologies or assumptions to determine the fair value of certain financial instruments could result in a different fair value measurement at the reporting date.

The availability of observable data is monitored by plan management to assess appropriate classification of financial instruments within the fair value hierarchy. Depending upon the availability of such inputs, specific securities may transfer between levels. In such instances, the transfer is reported at the end of the reporting period.

(Amounts in thousands except share data and where otherwise indicated)

The fair value measurement of plan assets using significant unobservable inputs (Level 3) changed during 2017 and 2018, due to the following:

	Level 3
Balance at January 1, 2017	$ 4,354
Actual return on plan assets:	
Relating to assets sold during the period	28
Relating to assets still held at December 31, 2017	280
Sales	(456)
Foreign currency translation	386
Balance at December 31, 2017	$ 4,592
Actual return on plan assets:	
Relating to assets still held at December 31, 2018	(29)
Insurance contracts added	16,975
Foreign currency translation	(255)
Balance at December 31, 2018	$ 21,283

Future Estimates

Benefit Payments

Estimated future benefit payments to retirees, which reflect expected future service, are as follows:

	Qualified Defined Benefits		Non-Qualified Supplemental Benefits	Other Post-Retirement Benefits
	U.S. Plan	Non-U.S. Plans		
2019	$ 33,990	$ 9,069	$ 13,500	$ 717
2020	37,086	8,484	5,353	705
2021	37,217	9,043	11,474	681
2022	36,896	9,339	8,742	663
2023	36,117	10,754	4,220	641
2024 - 2028	166,962	63,653	18,933	2,794

Contributions

In 2019, the Company expects to contribute approximately $5.4 million to its non-U.S. plans and currently does not expect to contribute to its U.S. plans.

DOVER CORPORATION
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS
(Amounts in thousands except share data and where otherwise indicated)

17. Other Comprehensive Earnings (Loss)

The amounts recognized in other comprehensive earnings (loss) were as follows:

Year Ended December 31, 2018	**Pre-tax**	**Tax**	**Net of tax**
Foreign currency translation adjustments	$ (69,468)	$ 9,498	$ (59,970)
Pension and other postretirement benefit plans	(14,379)	$ 3,241	$ (11,138)
Changes in fair value of cash flow hedges	3,416	$ (717)	$ 2,699
Total other comprehensive (loss) earnings	$ (80,431)	$ 12,022	$ (68,409)

Year Ended December 31, 2017	**Pre-tax**	**Tax**	**Net of tax**
Foreign currency translation adjustments	$ 103,214	$ 43,842	$ 147,056
Pension and other post-retirement benefit plans	28,784	(7,397)	21,387
Changes in fair value of cash flow hedges	(3,678)	1,287	(2,391)
Other	(1,687)	202	(1,485)
Total other comprehensive earnings	$ 126,633	$ 37,934	$ 164,567

Year Ended December 31, 2016	**Pre-tax**	**Tax**	**Net of tax**
Foreign currency translation adjustments	$ (86,876)	$ (18,827)	$ (105,703)
Pension and other postretirement benefit plans	5,936	(4,560)	1,376
Changes in fair value of cash flow hedges	860	(301)	559
Other	(1,119)	134	(985)
Total other comprehensive loss	$ (81,199)	$ (23,554)	$ (104,753)

The components of accumulated other comprehensive earnings (loss) are as follows:

	December 31, 2018	**December 31, 2017**
Cumulative foreign currency translation adjustments	$ (142,567)	$ (93,925)
Pension and other postretirement benefit plans	(102,932)	(100,538)
Changes in fair value of cash flow hedges and other	2,403	(296)
	$ (243,096)	$ (194,759)

Total comprehensive earnings (loss) were as follows:

	Years Ended December 31,		
	2018	**2017**	**2016**
Net earnings	$ 570,267	$ 811,665	$ 508,892
Other comprehensive (loss) earnings	(68,409)	164,567	(104,753)
Comprehensive earnings	$ 501,858	$ 976,232	$ 404,139

(Amounts in thousands except share data and where otherwise indicated)

Amounts reclassified from accumulated other comprehensive earnings (loss) to earnings (loss) during the year ended December 31, 2018, 2017 and 2016 were as follows:

	Years Ended December 31,		
	2018	2017	2016
Pension and other postretirement benefit plans:			
Amortization of actuarial losses	$ 4,893	$ 7,735	$ 8,544
Amortization of prior service costs and transition obligation	3,631	4,424	6,609
Settlement and curtailment	12,565	(3,844)	—
Total before tax	21,089	8,315	15,153
Tax benefit	(4,459)	(2,503)	(5,073)
Net of tax	$ 16,630	$ 5,812	$ 10,080
Cash flow hedges:			
Net losses (gains) reclassified into earnings	$ 1,950	$ (908)	$ 638
Tax (benefit) expense	$ (409)	318	(223)
Net of tax	$ 1,541	$ (590)	$ 415

The Company recognizes net periodic benefit cost, which includes amortization of net actuarial losses, prior service costs and transition obligation, in both selling, general and administrative expenses and cost of goods and services in the Consolidated Statements of Earnings, depending on the functional area of the underlying employees included in the plans.

Cash flow hedges consist mainly of foreign currency forward contracts. The Company recognizes the realized gains and losses on its cash flow hedges in the same line item as the hedged transaction, such as revenue, cost of goods and services, or selling, general and administrative expenses in the Consolidated Statements of Earnings.

18. Segment Information

The Company's businesses are aligned around its key end markets to better focus on growth strategies, provide increased opportunities to leverage Dover's scale and capitalize on productivity initiatives. Operating segments are defined as the components of an enterprise for which separate financial information is available and regularly evaluated by the entity's chief operating decision maker ("CODM") or decision-making group composed of Dover's Chief Executive Officer and Chief Financial Officer, in making resource allocation decisions and evaluating performance.

As described in Note 2 - Spin-off of Apergy Corporation, Dover completed the distribution of Apergy to its shareholders on May 9, 2018. Apergy holds entities conducting upstream energy businesses previously included in the Energy segment. Following completion of the spin-off, the retained Precision Components (Bearings & Compression) and Tulsa Winch Group businesses, which were historically reported within the former Energy segment, became part of the Fluids and Engineered Systems segments, respectively. As a result of the spin-off of Apergy, the Company no longer has the Energy segment.

Effective the second quarter of 2018, the Company categorizes its operating companies into three reportable segments based on how the CODM analyze performance, allocate capital and make strategic and operational decisions. The three reportable segments are as follows:

- Engineered Systems segment is comprised of two platforms, Printing & Identification and Industrials, and is focused on the design, manufacture and service of critical equipment and components serving the fast-moving consumer goods, digital textile printing, vehicle service, environmental solutions and industrial end markets.

- Fluids segment, serving the Fueling & Transport, Pumps and Process Solutions end markets, is focused on the safe handling of critical fluids, and providing critical components to the retail fueling, chemical, hygienic, oil and gas, power generation and industrial end markets.

- The Refrigeration & Food Equipment segment is a provider of customer-driven solutions and services for safe and efficient production and processing of fuels worldwide and has a strong presence in the bearings and compression components and automation markets.

DOVER CORPORATION
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS
(Amounts in thousands except share data and where otherwise indicated)

Segment financial information and a reconciliation of segment results to consolidated results follows:

	Years Ended December 31,		
	2018	**2017**	**2016**
Revenue:			
Engineered Systems	$ 2,742,948	$ 2,667,984	$ 2,446,665
Fluids	2,797,338	2,555,065	1,977,050
Refrigeration & Food Equipment	1,453,093	1,599,105	1,620,339
Intra-segment eliminations	(1,261)	(1,268)	(830)
Total consolidated revenue	$ 6,992,118	$ 6,820,886	$ 6,043,224
Earnings from continuing operations:			
Segment earnings: [1]			
Engineered Systems	$ 451,270	$ 604,484	$ 399,209
Fluids	389,804	368,630	246,545
Refrigeration & Food Equipment	136,119	193,822	283,628
Total segment earnings	977,193	1,166,936	929,382
Corporate expense / other [2]	129,724	154,664	115,521
Interest expense	130,972	144,948	135,969
Interest income	(8,881)	(8,491)	(6,752)
Earnings before provision for income taxes and discontinued operations	725,378	875,815	684,644
Provision for income taxes	134,233	129,152	182,516
Earnings from continuing operations	$ 591,145	$ 746,663	$ 502,128
Segment margins:			
Engineered Systems	16.5 %	22.7 %	16.3 %
Fluids	13.9 %	14.4 %	12.5 %
Refrigeration & Food Equipment	9.4 %	12.1 %	17.5 %
Total Segments	14.0 %	17.1 %	15.4 %
Net earnings	8.5 %	10.9 %	8.3 %
Depreciation and amortization:			
Engineered Systems	$ 75,879	$ 85,447	$ 78,173
Fluids	140,444	135,821	101,266
Refrigeration & Food Equipment	60,477	57,207	65,018
Corporate	5,780	4,803	5,215
Consolidated total	$ 282,580	$ 283,278	$ 249,672
Capital expenditures:			
Engineered Systems	$ 47,044	$ 37,495	$ 32,374
Fluids	86,566	90,625	68,147
Refrigeration & Food Equipment	32,482	32,541	23,651
Corporate	4,902	9,407	15,406
Consolidated total	$ 170,994	$ 170,068	$ 139,578

(1) Segment earnings includes non-operating income and expense directly attributable to the segments. Non-operating income and expense includes Gain on sale of businesses and other expense (income), net.

(2) Certain expenses are maintained at the corporate level and not allocated to the segments. These expenses include executive and functional compensation costs, non-service pension costs, non-operating insurance expenses, shared business services costs and various administrative expenses relating to the corporate headquarters.

(Amounts in thousands except share data and where otherwise indicated)

Selected financial information by market segment (continued):

Total assets at December 31:	2018	2017
Engineered Systems	$ 3,070,019	$ 3,097,066
Fluids	3,458,153	3,410,634
Refrigeration & Food Equipment	1,252,870	1,284,852
Corporate [3]	584,729	1,000,254
Total assets - continuing operations	8,365,771	8,792,806
Assets from discontinued operations	—	1,865,553
Consolidated total	$ 8,365,771	$ 10,658,359

[3]The significant portion of corporate assets are principally cash and cash equivalents.

	Revenue			Long-Lived Assets	
	Years Ended December 31,			At December 31,	
	2018	2017	2016	2018	2017
United States	$ 3,619,717	$ 3,654,102	$ 3,351,466	$ 480,780	$ 459,931
Europe	1,572,788	1,476,686	1,241,297	239,070	238,986
Asia	867,268	754,845	658,425	24,872	29,074
Other America	631,164	621,831	516,544	59,550	57,016
Other	301,181	313,422	275,492	2,225	2,933
Consolidated total	$ 6,992,118	$ 6,820,886	$ 6,043,224	$ 806,497	$ 787,940

Revenue is attributed to regions based on the location of the Company's customer, which in some instances is an intermediary and not necessarily the end user. Long-lived assets are comprised of net property, plant and equipment. The Company's businesses are based primarily in the United States, Europe and Asia. The Company's businesses serve thousands of customers, none of which accounted for more than 10% of consolidated revenue.

19. Earnings per Share

The following table sets forth a reconciliation of the information used in computing basic and diluted earnings per share:

	Years Ended December 31,		
	2018	2017	2016
Earnings from continuing operations	$ 591,145	$ 746,663	$ 502,128
(Loss) earnings from discontinued operations, net	(20,878)	65,002	6,764
Net earnings	$ 570,267	$ 811,665	$ 508,892
Basic earnings per common share:			
Earnings from continuing operations	$ 3.94	$ 4.80	$ 3.23
(Loss) earnings from discontinued operations, net	$ (0.14)	$ 0.42	$ 0.04
Net earnings	$ 3.80	$ 5.21	$ 3.28
Weighted average basic shares outstanding	149,874,000	155,685,000	155,231,000
Diluted earnings per common share:			
Earnings from continuing operations	$ 3.89	$ 4.73	$ 3.21
(Loss) earnings from discontinued operations, net	$ (0.14)	$ 0.41	$ 0.04
Net earnings	$ 3.75	$ 5.15	$ 3.25
Weighted average diluted shares outstanding	152,133,000	157,744,000	156,636,000

(Amounts in thousands except share data and where otherwise indicated)

The following table is a reconciliation of the share amounts used in computing earnings per share:

	Years Ended December 31,		
	2018	2017	2016
Weighted average shares outstanding - Basic	149,874,000	155,685,000	155,231,000
Dilutive effect of assumed exercise of SARs and vesting of performance shares and RSUs	2,259,000	2,059,000	1,405,000
Weighted average shares outstanding - Diluted	152,133,000	157,744,000	156,636,000

Diluted earnings per share amounts are computed using the weighted average number of common shares outstanding and, if dilutive, potential common shares outstanding during the period. Potential common shares consist of the incremental common shares issuable upon the exercise of SARs and vesting of performance shares and RSUs, as determined using the treasury stock method. For the years ended December 31, 2018, 2017 and 2016, the weighted average number of anti-dilutive potential common shares excluded from the calculation above totaled 1,382, 79,756 and 6,799, respectively.

20. Stockholders' Equity

The Company has the authority to issue up to 100,000 shares of $100 par preferred stock and up to 500,000,000 shares of $1.00 par common stock. There were no issuances of preferred stock. As of December 31, 2018 and 2017, the Company issued 257,822,352 and 256,992,261 shares of common stock and had 112,905,810 and 102,168,868 treasury shares, held at cost, respectively.

Share Repurchases

During the years ended December 31, 2018 and 2017, under the January 2015 authorization which expired on January 9, 2018, the Company repurchased 440,608 and 1,059,682 shares of common stock at a total cost of $44,977 and $105,023, or $102.08 and $99.11 per share, respectively. There were 5,271,168 shares available for repurchase under this authorization upon expiration.

In February 2018, the Company's Board of Directors approved a new standing share repurchase authorization, whereby the Company may repurchase up to 20,000,000 shares of its common stock through December 31, 2020. This share repurchase authorization replaced the January 2015 share repurchase authorization.

On May 22, 2018, the Company entered into a $700,000 accelerated share repurchase agreement (the “ASR Agreement”) with Goldman Sachs & Co. LLC (“Goldman Sachs”) to repurchase its shares in an accelerated share repurchase program (the “ASR Program”). The Company conducted the ASR Program under the February 2018 share repurchase authorization. The Company funded the ASR Program with funds received from Apergy in connection with the consummation of the Apergy spin-off.

Under the terms of the ASR Agreement, the Company paid Goldman Sachs $700,000 on May 24, 2018 and on that date received initial deliveries of 7,078,751 shares, representing a substantial majority of the shares expected to be retired over the course of the ASR Agreement. In December 2018 Goldman Sachs delivered a total of 1,463,815 shares which completed the ASR Program. During 2018, the Company received a total of 8,542,566 shares as part of the ASR Agreement. The total number of shares ultimately repurchased under the ASR Agreement was based on the volume-weighted average share price of Dover’s common stock during the calculation period of the ASR Program, less a discount, which was $81.94 over the term of the ASR Program.

Under the February 2018 share repurchase authorization, exclusive of the ASR Agreement, the Company repurchased 1,753,768 shares of common stock during the year ended December 31, 2018 at a total cost of $150,000, or $85.53 per share. As of December 31, 2018, 9,703,666 shares remain authorized for repurchase under the February 2018 share repurchase authorization.

Together with other repurchases in December 2017 and over the course of 2018, the Company has completed the $1 billion of share repurchases it announced in November 2017.

DOVER CORPORATION
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS
(Amounts in thousands except share data and where otherwise indicated)

21. Quarterly Data (Unaudited)

			Continuing Operations			Net Earnings		
Quarter	**Revenue**	**Gross Profit**	**Earnings**	**Per Share - Basic**	**Per Share - Diluted**	**Net Earnings**	**Per Share - Basic**	**Per Share - Diluted**
2018								
First	$ 1,637,671	$ 602,828	$ 109,409	$ 0.71	$ 0.70	$ 131,434	$ 0.85	$ 0.84
Second	1,798,094	665,236	166,456	1.10	1.08	139,959	0.92	0.91
Third	1,747,403	646,520	157,305	1.07	1.05	157,305	1.07	1.05
Fourth	1,808,950	644,972	157,975	1.08	1.07	141,569	0.97	0.96
	$ 6,992,118	$ 2,559,556	$ 591,145	$ 3.94	$ 3.89	$ 570,267	$ 3.80	$ 3.75
2017								
First	$ 1,583,210	$ 575,853	$ 155,088	$ 1.00	$ 0.99	$ 172,247	$ 1.11	$ 1.09
Second	1,737,371	654,108	142,475	0.92	0.90	164,058	1.05	1.04
Third	1,747,775	649,193	159,455	1.02	1.01	178,912	1.15	1.14
Fourth	1,752,530	649,893	289,645	1.86	1.83	296,448	1.90	1.88
	$ 6,820,886	$ 2,529,047	$ 746,663	$ 4.80	$ 4.73	$ 811,665	$ 5.21	$ 5.15

22. Subsequent Events

On January 25, 2019, the Company acquired Belanger, Inc. ("Belanger"), a leading full-line car wash equipment manufacturer, for approximately $180 million. Belanger strengthens Dover's position in the Fueling & Transport end market within our Fluids segment.

SCHEDULE II

VALUATION AND QUALIFYING ACCOUNTS
Years Ended December 31, 2018, 2017 and 2016
(In thousands)

Allowance for Doubtful Accounts	Balance at Beginning of Year	Charged to Cost and Expense (A)	Accounts Written Off	Other	Balance at End of Year
Year Ended December 31, 2018	$ 34,479	3,875	(9,326)	(559)	$ 28,469
Year Ended December 31, 2017	$ 16,381	10,341	(3,706)	11,463	$ 34,479
Year Ended December 31, 2016	$ 13,619	7,700	(4,570)	(368)	$ 16,381

(A) Net of recoveries on previously reserved or written-off balances.

Deferred Tax Valuation Allowance	Balance at Beginning of Year	Additions	Reductions	Other	Balance at End of Year
Year Ended December 31, 2018	$ 238,236	26,162	—	—	$ 264,398
Year Ended December 31, 2017	$ 289,237	—	(51,001)	—	$ 238,236
Year Ended December 31, 2016	$ 170,958	118,279	—	—	$ 289,237

LIFO Reserve	Balance at Beginning of Year	Charged to Cost and Expense	Reductions	Other	Balance at End of Year
Year Ended December 31, 2018	$ 17,571	3,474	(1,025)	—	$ 20,020
Year Ended December 31, 2017	$ 20,245	1,708	(4,382)	—	$ 17,571
Year Ended December 31, 2016	$ 20,179	686	(620)	—	$ 20,245

ITEM 9. CHANGES IN AND DISAGREEMENTS WITH ACCOUNTANTS ON ACCOUNTING AND FINANCIAL DISCLOSURE

None.

ITEM 9A. CONTROLS AND PROCEDURES

Evaluation of Disclosure Controls and Procedures

Based on an evaluation under the supervision and with the participation of the Company's management, the Company's Chief Executive Officer and Chief Financial Officer have concluded that the Company's disclosure controls and procedures as defined in Rule 13a-15(e) under the Exchange Act were effective as of December 31, 2018 to ensure that information required to be disclosed by the Company in reports that it files or submits under the Exchange Act is (i) recorded, processed, summarized and reported within the time periods specified in the Securities and Exchange Commission rules and forms and (ii) 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.

Changes in Internal Controls

During the fourth quarter of 2018, there were no changes in the Company's internal control over financial reporting that have materially affected, or are reasonably likely to materially affect, the Company's internal control over financial reporting.

Inherent Limitations Over Internal Controls

The Company's internal control over financial reporting is designed 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. The Company's internal control over financial reporting includes those policies and procedures that:

i. pertain to the maintenance of records that, in reasonable detail, accurately and fairly reflect the transactions and dispositions of the Company's assets;

ii. provide reasonable assurance that transactions are recorded as necessary to permit preparation of financial statements in accordance with generally accepted accounting principles, and that the Company's receipts and expenditures are being made only in accordance with authorizations of the Company's management and directors; and

iii. provide reasonable assurance regarding prevention or timely detection of unauthorized acquisition, use, or disposition of the Company's assets that could have a material effect on the financial statements.

Management's report on the effectiveness of the Company's internal control over financial reporting is included in Item 8 of this Form 10-K. Management, including the Company's Chief Executive Officer and Chief Financial Officer, does not expect that the Company's internal controls will prevent or detect all errors and all fraud. A control system, no matter how well designed and operated, can provide only reasonable, not absolute, assurance that the objectives of the control system are met. Further, the design of a control system must reflect the fact that there are resource constraints, and the benefits of controls must be considered relative to their costs. Because of the inherent limitations in all control systems, no evaluation of internal controls can provide absolute assurance that all control issues and instances of fraud, if any, have been detected. Also, any evaluation of the effectiveness of controls in future periods is subject to the risk that those internal controls may become inadequate because of changes in business conditions, or that the degree of compliance with the policies or procedures may deteriorate.

ITEM 9B. OTHER INFORMATION

Under the Iran Threat Reduction and Syrian Human Rights Act of 2012, which added Section 13(r) of the Exchange Act, we are required to disclose in our periodic reports if we or any of our affiliates knowingly engaged in certain activities, transactions or dealings relating to Iran or with certain Iran-related entities or individuals designated pursuant to certain Executive Orders. Disclosure is required even where the activities are authorized by and in compliance with applicable law.

In connection with the easing of certain sanctions by the U.S. against Iran in January 2016 and in compliance with the economic sanctions regulations administered by U.S. Treasury's Office of Foreign Assets Control ("OFAC"), a wholly-owned non-U.S. subsidiary in our Fluids segment sold non-U.S. origin spare parts related to the oil, gas and/or petrochemical sectors to Iranian counterparties and non-U.S. origin custom pumps and filtering equipment and pelletizing systems to Iranian counterparties and European engineering parties with end use in the petrochemical sector in Iran, which resulted in revenue of approximately €9.2 million and net profits of approximately €4.6 million in the fourth quarter of 2018 prior to November 4, 2018.

On May 8, 2018, President Trump announced his decision to re-impose secondary sanctions against Iran. In response, on June 27, 2018, OFAC revoked General License H, with a provision authorizing the wind down of transactions previously authorized under General License H pursuant to 31 CFR §560.537. The sales described above were made by our non-U.S. subsidiary pursuant to contracts entered into prior to May 8, 2018, and in compliance with the terms and conditions of OFAC's General License H and the applicable wind-down license. Our non-U.S. subsidiary completed all wind down activities by November 4, 2018 in compliance with U.S. economic sanctions laws.

PART III

ITEM 10. DIRECTORS AND EXECUTIVE OFFICERS AND CORPORATE GOVERNANCE

The information with respect to the corporate governance matters and Section 16 compliance required to be included pursuant to this Item 10 will be included in the 2019 Proxy Statement that will be filed with the Securities and Exchange Commission pursuant to Rule 14a-6 under the Exchange Act in accordance with applicable SEC deadlines, and is incorporated in this Item 10 by reference.

As set forth below is a list of the members of our Board of Directors as of February 15, 2019.

Peter T. Francis[2,4]
Former President and Chief Executive Officer of J.M. Huber Company;
Managing Member, Mukilteo Investment Management Company

H. John Gilbertson, Jr.[1,4]
Retired Managing Director, Goldman Sachs Group Inc.

Kristiane C. Graham[2,3]
Private Investor

Michael F. Johnston, Chairman of the Board[2,3]
Retired Chief Executive Officer, Visteon Corporation

Richard K. Lochridge[2]
Retired President, Lochridge & Company, Inc.

Eric A. Spiegel[1,4]
Former President and CEO of Siemens USA

Richard J. Tobin
President & Chief Executive Officer, Dover Corporation

Stephen M. Todd[1]
Former Global Vice Chairman of Assurance Professional Practice of Ernst & Young Global Limited

Stephen K. Wagner[1,3]
Former Senior Advisor, Center for Corporate Governance, Deloitte & Touche LLP

Keith E. Wandell[2,4]
Retired President and Chief Executive Officer, Harley-Davidson, Inc.

Mary A. Winston[2.4]
President of WinsCo Enterprises Inc.;
Former Executive Vice President & Chief Financial Officer, Family Dollar Stores, Inc.

[1] Members of Audit Committee
[2] Members of Compensation Committee
[3] Members of Governance & Nominating Committee
[4] Members of Finance Committee

The information with respect to Section 16(a) reporting compliance required to be included in this Item 10 will be included in our 2019 Proxy Statement and is incorporated in this Item 10 by reference.

The Company has adopted a code of ethics that applies to its chief executive officer and senior financial officers. A copy of this code of ethics can be found on our website at www.dovercorporation.com. In the event of any amendment to, or waiver from, the code of ethics, we will publicly disclose the amendment or waiver by posting the information on our website.

ITEM 11. EXECUTIVE COMPENSATION

The information with respect to executive compensation and the compensation committee required to be included pursuant to this Item 11 will be included in our 2019 Proxy Statement and is incorporated in this Item 11 by reference.

ITEM 12. SECURITY OWNERSHIP OF CERTAIN BENEFICIAL OWNERS AND MANAGEMENT AND RELATED SHAREHOLDER MATTERS

The information regarding security ownership of certain beneficial owners and management that is required to be included pursuant to this Item 12 will be included in our 2019 Proxy Statement and is incorporated in this Item 12 by reference.

Equity Compensation Plans

The Equity Compensation Plan Table below presents information regarding our equity compensation plans at December 31, 2018:

Plan Category	(a) Number of Securities to be Issued Upon Exercise of Outstanding Options, Warrants and Rights (1)	(b) Weighted-Average Exercise Price of Outstanding Options, Warrants and Rights	(c) Number of Securities Remaining Available for Future Issuance Under Equity Compensation Plans (Excluding Securities Reflected in Column (a)) (2)
Equity compensation plans approved by stockholders	5,864,642	$ 60.19	7,102,229
Equity compensation plans not approved by stockholders	—	—	—
Total	5,864,642	$ 60.19	7,102,229

1. Column (a) includes shares issuable pursuant to outstanding SARs, restricted stock units and performance share awards under the Company's 2012 Equity and Cash Incentive Plan (the "2012 Plan") and the 2005 Equity and Cash Incentive Plan. Performance shares are subject to satisfaction of the applicable performance criteria over a three-year performance period. Restricted stock unit and performance share awards are not reflected in the weighted exercise price in column (b) as these awards do not have an exercise price.

2. Column (c) consists of shares available for future issuance under the Company's 2012 Equity and Cash Incentive Plan (the "2012 Plan"). Under the 2012 Plan, the Company could grant options, SARs, restricted stock or restricted stock units, performance share awards, director shares, or deferred stock units. Under the 2012 Plan, the number of shares available for issuance will be reduced (i) by one share for each share issued pursuant to options or SARs and (ii) by three shares for each share of stock issued pursuant to restricted stock, restricted stock unit, performance share, director share, or deferred stock unit awards.

As of December 31, 2018, equity securities have been authorized for issuance to employees and/or non-employee directors under the 2012 Plan and its predecessor plan, the 2005 Plan. Although the 2005 Plan has expired and no further awards may be granted under the Plan, there remain outstanding stock-settled appreciation rights and performance share awards under the 2005 Plan, which are reflected in Column (a) of the table.

ITEM 13. CERTAIN RELATIONSHIPS AND RELATED TRANSACTIONS AND DIRECTOR INDEPENDENCE

The information with respect to any director independence, related party transaction policies and any reportable transaction, business relationship, or indebtedness between the Company and the beneficial owners of more than 5% of the Common Stock, the directors or nominees for director of the Company, the executive officers of the Company, or the members of the immediate families of such individuals that are required to be included pursuant to this Item 13 is included in the 2019 Proxy Statement and is incorporated in this Item 13 by reference.

ITEM 14. PRINCIPAL ACCOUNTANT FEES AND SERVICES

The information with respect to the Company's relationship with its independent registered public accounting firm and fees paid thereto required to be included pursuant to this Item 14 is included in the 2019 Proxy Statement and is incorporated in this Item 14 by reference.

The information with respect to audit committee pre-approval policies and procedures required to be included pursuant to this Item 14 is included in the 2019 Proxy Statement and is incorporated in this Item 14 by reference.

PART IV

ITEM 15. EXHIBITS, FINANCIAL STATEMENT SCHEDULES

a) The following documents are filed as part of this report:

(1) Financial Statements. The financial statements are set forth under "Item 8. Financial Statements and Supplementary Data" of this Form 10-K.

(2) Schedules. The following financial statement schedule is set forth under "Item 8. Financial Statements and Supplementary Data" of this Form 10-K. All other schedules have been omitted because they are not required, are not applicable or the required information is included in the financial statements or the notes thereto.

- Schedule II – Valuation and Qualifying Accounts

(3) Exhibits. The exhibits below are filed or incorporated by reference as part of this Form 10-K. The exhibits will be filed with the SEC but will not be included in the printed version of the Annual Report to Shareholders.

EXHIBIT INDEX

(2.1)	Separation and Distribution Agreement, dated May 9, 2018, by and between Dover Corporation and Apergy Corporation, filed as Exhibit 2.1 to the Company's Current Report on Form 8-K filed May 11, 2018 (SEC File No. 001-04018), is incorporated by reference.
(3)(i)	Fourth Restated Certificate of Incorporation of the Company, filed as Exhibit 3(i)(a) to the Company's Current Report on Form 8-K filed May 6, 2014 (SEC File No. 001-04018), is incorporated by reference.
(3)(ii)	Amended and Restated By-Laws of the Company, effective as of February 11, 2016, filed as Exhibit 3(ii) to the Company's Current Report on Form 8-K filed on February 11, 2016 (SEC File No. 001-04018), are incorporated by reference.
(4.1)	Indenture, dated as of June 8, 1998 between the Company and The First National Bank Chicago, as trustee, filed as Exhibit 4.1 to the Company's Current Report on Form 8-K filed June 12, 1998 (SEC File No. 001-04018), is incorporated by reference.
(4.2)	Form of 6.65% Debentures due June 1, 2028 ($200,000,000 aggregate principal amount), filed as Exhibit 4.4 to the Company's Current Report on Form 8-K filed June 12, 1998 (SEC File No. 001-04018), is incorporated by reference.
(4.3)	Indenture, dated as of February 8, 2001 between the Company and BankOne Trust Company, N.A., as trustee, filed as Exhibit 4.1 to the Company's Current Report on Form 8-K filed February 13, 2001 (SEC File No. 001-04018), is incorporated by reference.

(4.4)	First Supplemental Indenture, dated as of October 13, 2005, among the Company, J.P. Morgan Trust Company, National Association, as original trustee, and The Bank of New York, as trustee, filed as Exhibit 4.1 to the Company's Current Report on Form 8-K filed October 13, 2005 (SEC File No. 001-04018), is incorporated by reference.
(4.5)	Form of 5.375% Debentures due October 15, 2035 ($300,000,000 aggregate principal amount), filed as Exhibit 4.3 to the Company's Current Report on Form 8-K filed October 13, 2005 (SEC File No. 001-04018), is incorporated by reference.
(4.6)	Second Supplemental Indenture, dated as of March 14, 2008, between the Company and The Bank of New York, as trustee, filed as Exhibit 4.1 to the Company's Current Report on Form 8-K filed March 14, 2008 (SEC File No. 001-04018), is incorporated by reference.
(4.7)	Form of Global Note representing the 5.45% Notes due March 15, 2018 ($350,000,000 aggregate principal amount), filed as Exhibit 4.2 to the Company's Current Report on Form 8-K filed March 14, 2008 (SEC File No. 001-04018), is incorporated by reference.
(4.8)	Form of Global Note representing 6.60% Notes due March 15, 2038 ($250,000,000 aggregate principal amount), filed as Exhibit 4.3 to the Company's Current Report on Form 8-K filed March 14, 2008 (SEC File No. 001-04018), is incorporated by reference.
(4.9)	Third Supplemental Indenture, dated as of February 22, 2011, between the Company and The Bank of New York Mellon, as trustee, filed as Exhibit 4.1 to the Company's Current Report on Form 8-K filed February 22, 2011 (SEC File No. 001-04018), is incorporated by reference.
(4.10)	Form of 4.300% Notes due March 1, 2021 ($450,000,000 aggregate principal amount), filed as Exhibit 4.2 to the Company's Current Report on Form 8-K filed February 22, 2011 (SEC File No. 001-04018), is incorporated by reference.
(4.11)	Form of 5.375% Notes due March 1, 2041 ($350,000,000 aggregate principal amount), filed as Exhibit 4.3 to the Company's Current Report on Form 8-K filed February 22, 2011 (SEC File No. 001-04018), is incorporated by reference.
(4.12)	Fourth Supplemental Indenture, dated as of December 2, 2013, between the Company and The Bank of New York Mellon, as trustee and The Bank of New York Mellon, London Branch, as paying agent, filed as Exhibit 4.1 to the Company's Current Report on Form 8-K filed December 3, 2013 (SEC File No. 001-04018), is incorporated by reference.
(4.13)	Form of Global Note representing the 2.125% Notes due 2020 (€300,000,000 aggregate principal amount) (included as Exhibit A to the Fourth Supplemental Indenture), filed as Exhibit 4.1 to the Company's Current Report on Form 8-K filed December 3, 2013 (SEC File No. 001-04018), is incorporated by reference.
(4.14)	Fifth Supplemental Indenture, dated as of November 3, 2015, between the Company and J.P. Morgan Trust Company National Association, as trustee, filed as Exhibit 4.1 to the Company's Current Report on Form 8-K filed on November 3, 2015 (SEC File No. 001-04018), is incorporated by reference.
(4.15)	Form of Global Note representing the 3.150% Notes due 2025 ($400,000,000 aggregate principal amount) (included as Exhibit A to the Fifth Supplemental Indenture), filed as Exhibit 4.1 to the Company's Current Report on Form 8-K filed on November 3, 2015 (SEC File No. 001-04018), is incorporated by reference.
(4.16)	Sixth Supplemental Indenture, dated as of November 9, 2016, between the Company and J.P. Morgan Trust Company National Association, as trustee, filed as Exhibit 4.1 to the Company's Current Report on Form 8-K filed on November 9, 2016 (SEC File No. 001-04018), is incorporated by reference.
(4.17)	Form of Global Note representing the 1.250% Notes due 2026 (€600,000,000 aggregate principal amount) (included as Exhibit A to the Sixth Supplemental Indenture), filed as Exhibit 4.1 to the Company's Current Report on Form 8-K filed on November 9, 2016 (SEC File No. 001-04018), is incorporated by reference.
	The Company agrees to furnish to the Securities and Exchange Commission upon request, a copy of any instrument with respect to long-term debt under which the total amount of securities authorized does not exceed 10 percent of the total consolidated assets of the Company.
(10.1)	Dover Corporation Senior Executive Change-in-Control Severance Plan, as amended and restated effective November 1, 2018.* (1)
(10.2)	Dover Corporation Executive Officer Annual Incentive Plan, as amended and restated as of January 1, 2009, filed as Exhibit 10.2 to the Company's Current Report on Form 8-K filed May 13, 2009 (SEC File No. 001-04018), is incorporated by reference.*
(10.3)	Dover Corporation Deferred Compensation Plan, as amended and restated as of January 1, 2009, filed as Exhibit 10.6 to the Company's Annual Report on Form 10-K for the year ended December 31, 2008 (SEC File No. 001-04018), is incorporated by reference.*
(10.4)	First Amendment and Second Amendment to the Dover Corporation Deferred Compensation Plan, as amended and restated as of January 1, 2009, filed as Exhibit 10.1 to the Company's Quarterly Report on Form 10-Q for the period ended September 30, 2013 (SEC File No. 001-04018), is incorporated by reference.*

(10.5)	Third Amendment, adopted on July 31, 2014 and effective as of January 1, 2014, to the Dover Corporation Deferred Compensation Plan, filed as Exhibit 10.2 to the Company’s Quarterly Report on Form 10-Q for the period ended September 30, 2014 (SEC File No. 001-04018), is incorporated by reference.*
(10.6)	Fourth Amendment, effective as of January 1, 2015, to the Dover Corporation Deferred Compensation Plan, filed as Exhibit 10.1 to the Company’s Quarterly Report on Form 10-Q for the period ended March 31, 2015 (SEC File No. 001-04018), is incorporated by reference.*
(10.7)	Fifth Amendment, dated as of October 28, 2015, to the Dover Corporation Deferred Compensation Plan, filed as Exhibit 10.8 to the Company’s Annual Report on Form 10-K for the period ended December 31, 2015 (SEC File No. 001-04018), is incorporated by reference.*
(10.8)	Sixth Amendment, dated as of November 28, 2016, to the Dover Corporation Deferred Compensation Plan, filed as Exhibit 10.9 to the Company’s Annual Report on Form 10-K for the period ended December 31, 2016 (SEC File No. 001-04018), is incorporated by reference.*
(10.9)	Seventh Amendment, dated as of May 8, 2018, to the Dover Corporation Deferred Compensation Plan, filed as Exhibit 10.1 to the Company’s Quarterly Report on Form 10-Q for the period ended June 30, 2018 (SEC File No. 001-04018), is incorporated by reference.*
(10.10)	Dover Corporation 2005 Equity and Cash Incentive Plan, amended and restated as of January 1, 2009, filed as Exhibit 10.1 to the Company’s Current Report on Form 8-K filed May 13, 2009 (SEC File No. 001-04018), is incorporated by reference.*
(10.11)	Amendment No. 1 to the Dover Corporation 2005 Equity and Cash Incentive Plan (Amended and Restated as of January 1, 2009), filed as Exhibit 10.9 to the Company’s Annual Report on Form 10-K for the period ended December 31, 2014 (SEC File No. 001-04018), is incorporated by reference.*
(10.12)	Amendment No. 1 to the Dover Corporation 2012 Equity and Cash Incentive Plan, filed as Exhibit 10.25 to the Company’s Annual Report on Form 10-K for the year ended December 31, 2013 (SEC File No. 001-04018), is incorporated by reference.*
(10.13)	Form of award grant letter for SSAR grants made under the Dover Corporation 2005 Equity and Cash Incentive Plan, filed as Exhibit 10.8 to the Company's Annual Report on Form 10-K for the period ended December 31, 2011 (SEC File No. 001-04018), is incorporated by reference.*
(10.14)	Dover Corporation Pension Replacement Plan (formerly the Supplemental Executive Retirement Plan), as amended and restated as of January 1, 2010, filed as Exhibit 10.11 to the Company's Annual Report on Form 10-K for the year ended December 31, 2009 (SEC File No. 001-04018), is incorporated by reference.*
(10.15)	First Amendment to the Dover Corporation Pension Replacement Plan, as amended and restated as of January 1, 2010, filed as Exhibit 10.2 to the Company's Quarterly Report on Form 10-Q for the period ended September 30, 2013 (SEC File No. 001-04018), is incorporated by reference.*
(10.16)	Second Amendment, dated as of November 28, 2016, to the Dover Corporation Pension Replacement Plan, as amended and restated as of January 1, 2010, filed as Exhibit 10.19 to the Company’s Annual Report on Form 10-K for the period ended December 31, 2016 (SEC File No. 001-04018), is incorporated by reference.*
(10.17)	Third Amendment, dated as of May 8, 2018, to the Dover Corporation Pension Replacement Plan, as amended and restated as of January 1, 2010, filed as Exhibit 10.2 to the Company’s Quarterly Report on Form 10-Q for the period ended June 30, 2018 (SEC File No. 001-04018), is incorporated by reference.*
(10.18)	Dover Corporation Executive Severance Plan, as amended and restated effective November 1, 2018.* (1)
(10.19)	Amendment No. 1 to the Executive Employee Supplemental Retirement Agreement with Robert A. Livingston, Jr., filed as Exhibit 99.1 to the Company's Current Report on Form 8-K filed March 3, 2010 (SEC File No. 001-04018), is incorporated by reference.*
(10.20)	Dover Corporation 2012 Equity and Cash Incentive Plan, effective as of May 3, 2012, filed as Exhibit 10.1 to the Company's Quarterly Report on Form 10-Q for the period ended June 30, 2012 (SEC File No. 001-04018), is incorporated by reference.*
(10.21)	Amendment No. 2, adopted and effective as of August 6, 2014, to the Dover Corporation 2012 Equity and Cash Incentive Plan, filed as Exhibit 10.1 to the Company’s Quarterly Report on Form 10-Q for the period ended September 30, 2014 (SEC File No. 001-04018), is incorporated by reference.*
(10.22)	Form of award grant letter for SSAR grants made under the Dover Corporation 2012 Equity and Cash Incentive Plan, filed as Exhibit 10.20 to the Company’s Annual Report on Form 10-K for the year ended December 31, 2012 (SEC File No. 001-04018), is incorporated by reference.*
(10.23)	Form of award grant letter for SSAR grants made under the Dover Corporation 2012 Equity and Cash Incentive Plan, filed as Exhibit 10.5 to the Company’s Quarterly Report on Form 10-Q for the period ended March 31, 2014 (SEC File No. 001-04018), is incorporated by reference.*

(10.24)	Form of award grant letter for SSAR grants made under the Dover Corporation 2012 Equity and Cash Incentive Plan, filed as Exhibit 10.25 to the Company's Annual Report on Form 10-K for the period ended December 31, 2014 (SEC File No. 001-04018), is incorporated by reference.*
(10.25)	Form of award grant letter for SSAR grants made under the Dover Corporation 2012 Equity and Cash Incentive Plan, filed as Exhibit 10.1 to the Company's Quarterly Report on Form 10-Q for the period ended March 31, 2016 (SEC File No. 001-04018), is incorporated by reference.*
(10.26)	Form of award grant letter for SSAR grants made under the Dover Corporation 2012 Equity and Cash Incentive Plan, filed as Exhibit 10.1 to the Company's Quarterly Report on Form 10-Q for the period ended March 31, 2017 (SEC File No. 001-04018), is incorporated by reference.*
(10.27)	Form of award grant letter for SSAR grants made under the Dover Corporation 2012 Equity and Cash Incentive Plan, filed as Exhibit 10.1 to the Company's Quarterly Report on Form 10-Q for the period ended March 31, 2018 (SEC File No. 001-04018), is incorporated by reference.*
(10.28)	Form of award grant letter for cash performance awards made under the Dover Corporation 2012 Equity and Cash Incentive Plan, filed as Exhibit 10.2 to the Company's Quarterly Report on Form 10-Q for the period ended March 31, 2016 (SEC File No. 001-04018), is incorporated by reference.*
(10.29)	Form of award grant letter for cash performance awards made under the Dover Corporation 2012 Equity and Cash Incentive Plan, filed as Exhibit 10.2 to the Company's Quarterly Report on Form 10-Q for the period ended March 31, 2017 (SEC File No. 001-04018), is incorporated by reference.*
(10.30)	Form of award grant letter for cash performance awards made under the Dover Corporation 2012 Equity and Cash Incentive Plan, filed as Exhibit 10.2 to the Company's Quarterly Report on Form 10-Q for the period ended March 31, 2018 (SEC File No. 001-04018), is incorporated by reference.*
(10.31)	Form of award grant letter for performance share awards made under the Dover Corporation 2012 Equity and Cash Incentive Plan, filed as Exhibit 10.3 to the Company's Quarterly Report on Form 10-Q for the period ended March 31, 2016 (SEC File No. 001-04018), is incorporated by reference.*
(10.32)	Form of award grant letter for performance share awards made under the Dover Corporation 2012 Equity and Cash Incentive Plan, filed as Exhibit 10.3 to the Company's Quarterly Report on Form 10-Q for the period ended March 31, 2017 (SEC File No. 001-04018), is incorporated by reference.*
(10.33)	Form of award grant letter for performance share awards made under the Dover Corporation 2012 Equity and Cash Incentive Plan, filed as Exhibit 10.3 to the Company's Quarterly Report on Form 10-Q for the period ended March 31, 2018 (SEC File No. 001-04018), is incorporated by reference.*
(10.34)	Form of Restricted Stock Unit Award Letter under the Dover Corporation 2012 Equity and Cash Incentive Plan, filed as Exhibit 10.4 to the Company's Quarterly Report on Form 10-Q for the period ended March 31, 2016 (SEC File No. 001-04018), is incorporated by reference.*
(10.35)	Form of Restricted Stock Unit Award Letter under the Dover Corporation 2012 Equity and Cash Incentive Plan, filed as Exhibit 10.4 to the Company's Quarterly Report on Form 10-Q for the period ended March 31, 2017 (SEC File No. 001-04018), is incorporated by reference.*
(10.36)	Form of Restricted Stock Unit Award Letter under the Dover Corporation 2012 Equity and Cash Incentive Plan, filed as Exhibit 10.4 to the Company's Quarterly Report on Form 10-Q for the period ended March 31, 2018 (SEC File No. 001-04018), is incorporated by reference.*
(10.37)	Employment Agreement of Richard J. Tobin dated March 16, 2018, filed as Exhibit 10.1 to the Company's Current Report on Form 8-K filed March 20, 2018 (SEC File No. 001-04018), is incorporated by reference.*
(10.38)	Five-Year Credit Agreement, dated as of November 10, 2015, among the Company, the Borrowing Subsidiaries party thereto from time to time, the Lenders party thereto, and JPMorgan Chase Bank, N.A. as Administrative Agent, filed as Exhibit 10.34 to the Company's Annual Report on Form 10-K for the period ended December 31, 2015 (SEC File No. 001-04018), is incorporated by reference.
(10.39)	Master Confirmation - Accelerated Stock Buyback, dated as of May 22, 2018, between Dover Corporation and Goldman Sachs & Co. LLC, filed as Exhibit 10.1 to the Company's Current Report on Form 8-K filed May 22, 2018 (SEC File No. 001-04018), is incorporated by reference.
(10.40)	Employee Matters Agreement, dated May 9, 2018, by and between Dover Corporation and Apergy Corporation, filed as Exhibit 10.1 to the Company's Current Report on Form 8-K filed May 11, 2018 (SEC File No. 001-04018), is incorporated by reference.
(10.41)	Tax Matters Agreement, dated May 9, 2018, by and between Dover Corporation and Apergy Corporation, filed as Exhibit 10.2 to the Company's Current Report on Form 8-K filed May 11, 2018 (SEC File No. 001-04018), is incorporated by reference.
(10.42)	Transition Services Agreement, dated May 9, 2018, by and between Dover Corporation and Apergy Corporation, filed as Exhibit 10.3 to the Company's Current Report on Form 8-K filed May 11, 2018 (SEC File No. 001-04018), is incorporated by reference.

(21)	Subsidiaries of Dover. (1)
(23)	Consent of Independent Registered Public Accounting Firm. (1)
(24)	Power of Attorney (included in signature page). (1)
(31.1)	Certification pursuant to Rule 13a-14 of the Securities and Exchange Act of 1934, as amended, signed and dated by Brad M. Cerepak. (1)
(31.2)	Certification pursuant to Rule 13a-14 of the Securities and Exchange Act of 1934, as amended, signed and dated by Richard J. Tobin. (1)
(32)	Certification pursuant to 18 U.S.C. Section 1350, signed and dated by Richard J. Tobin and Brad M. Cerepak. (1)
(101)	The following materials from Dover Corporation's Annual Report on Form 10-K for the year ended December 31, 2018 formatted in iXBRL (Inline eXtensible Business Reporting Language): (i) Consolidated Statements of Earnings, (ii) Consolidated Statements of Comprehensive Earnings (iii) Consolidated Balance Sheets, (iv) Consolidated Statements of Stockholders' Equity, (v) Consolidated Statements of Cash Flows, and (vi) Notes to the Consolidated Financial Statements. (1)

* Executive compensation plan or arrangement.

(1) Filed herewith.

ITEM 16. SUMMARY

None.

Signatures

Pursuant to the requirements of Section 13 or 15(d) of the Securities Exchange Act of 1934, as amended, the Registrant has duly caused this Annual Report on Form 10-K to be signed on its behalf by the undersigned, thereunto duly authorized.

DOVER CORPORATION

/s/ Richard J. Tobin

Richard J. Tobin
President and Chief Executive Officer

Date: February 15, 2019

Pursuant to the requirements of the Securities Exchange Act of 1934, as amended, this Annual Report on Form 10-K has been signed below by the following persons on behalf of the Registrant in the capacities and on the dates indicated. Each of the undersigned, being a director or officer of Dover Corporation (the "Company"), hereby constitutes and appoints Richard J. Tobin, Brad M. Cerepak and Ivonne M. Cabrera and each of them (with full power to each of them to act alone), his or her true and lawful attorney-in-fact and agent for him or her and in his or her name, place and stead in any and all capacities, to sign the Company's Annual Report on Form 10-K for the fiscal year ended December 31, 2018 under the Securities Exchange Act of 1934, as amended, and any and all amendments thereto, and to file the same with all exhibits thereto and other documents in connection therewith with the Securities and Exchange Commission and any other appropriate authority, granting unto such attorneys-in-fact and agents, and each of them, full power and authority to do and perform each and every act and thing required and necessary to be done in and about the premises in order to effectuate the same as fully to all intents and purposes as he or she might or could do if personally present, hereby ratifying and confirming all that such attorneys-in-fact and agents, or any of them, may lawfully do or cause to be done by virtue hereof.

Signature	Title	Date
/s/ Michael F. Johnston Michael F. Johnston	Chairman, Board of Directors	February 15, 2019
/s/ Richard J. Tobin Richard J. Tobin	Chief Executive Officer, President and Director (Principal Executive Officer)	February 15, 2019
/s/ Brad M. Cerepak Brad M. Cerepak	Senior Vice President and Chief Financial Officer (Principal Financial Officer)	February 15, 2019
/s/ Carrie Anderson Carrie Anderson	Vice President, Controller (Principal Accounting Officer)	February 15, 2019
/s/ Peter T. Francis Peter T. Francis	Director	February 15, 2019

Signature	Title	Date
/s/ Kristiane C. Graham Kristiane C. Graham	Director	February 15, 2019
/s/ H. John Gilbertson, Jr. H. John Gilbertson, Jr.	Director	February 15, 2019
/s/ Richard K. Lochridge Richard K. Lochridge	Director	February 15, 2019
/s/ Eric A. Spiegel Eric A. Spiegel	Director	February 15, 2019
/s/ Stephen M. Todd Stephen M. Todd	Director	February 15, 2019
/s/ Stephen K. Wagner Stephen K. Wagner	Director	February 15, 2019
/s/ Keith E. Wandell Keith E. Wandell	Director	February 15, 2019
/s/ Mary A. Winston Mary A. Winston	Director	February 15, 2019

Exhibit 10.1

DOVER CORPORATION SENIOR EXECUTIVE CHANGE-IN-CONTROL SEVERANCE PLAN (As Amended and Restated Effective November 1, 2018)

Introduction

This Dover Corporation Senior Executive Change-in-Control Severance Plan (the "Plan") sets forth the policy of Dover Corporation, a Delaware corporation ("Dover"), and each of its Subsidiaries (as defined in Article 14) which employs an "Eligible Executive" (as defined in Article 1) with respect to "Severance Payments" (as defined in Article 5) payable to an Eligible Executive under the Plan (Dover and such Subsidiaries are collectively referred to as the "Company"). This Senior Executive Change-in-Control Severance Plan constitutes the plan document and summary plan description for the Plan.

Article 1. Who is Eligible for Participation in the Plan

a. *Eligible Executives.* Those executives of the Company who have been notified that they are subject to Dover's Senior Executive Shareholding Guidelines, as in effect from time to time, and, on the date of a "Change of Control" (as defined in Article 14), remain subject to such guidelines, shall be eligible to receive Severance Payments under the Plan.

b. *Effect of Employment Agreement.* You shall not be eligible to participate in the Plan if you are party to a written agreement with the Company that provides for severance payments to you upon, or following, the termination of your employment or following a Change-in-Control of the Company.

c. *Other Plans.* If you are eligible to participate in this Plan, you shall not be eligible to participate in, or to receive any severance benefits under, any other severance plan, policy, practice, or arrangement maintained by the Company. If you become eligible to receive Severance Payments under this Plan, you shall not be eligible to receive Severance Payments under the Dover Corporation Executive Severance Plan.

Article 2. How Do You Become Eligible for Severance Payments under the Plan

You will be eligible for Severance Payments if you are an Eligible Employee as of the date of a Change of Control and, within eighteen (18) months following a Change-in-Control:

a. *Termination Without Cause.* Your employment is terminated by the Company without "Cause" (as defined in Article 14) ("Termination Without Cause"); or

b. *Good Reason Termination.* You terminate your employment with the Company for "Good Reason" (as defined in Article 14) by giving a notice of termination for Good Reason under the procedures set forth in this Article 2 ("Good Reason Termination");

- You may elect to terminate your employment for Good Reason by giving written notice to the Company of the events constituting Good Reason within eighteen (18) months after a Change-in-Control. The notice of termination for Good Reason shall be effective thirty (30) days after it is provided by you if the Company shall fail to cure the events constituting Good Reason within such thirty (30) day notice period. In order to be effective, you must give the notice of a Good Reason termination within sixty (60) days after the event(s) that constitute Good Reason first occur and within eighteen (18) months after a Change-in-Control.

- The Company may waive all or part of the thirty (30) day notice required to be given by you by giving written notice to you.

Article 3. What Events Make You Ineligible for Severance Payments under the Plan

You shall not be entitled to receive Severance Payments under this Plan if any of the following disqualifying events occur:

a. *Death or Disability.* Your employment terminates due to death or, at the option of the Company, upon your "Disability" (as defined in Article 14);

b. *Voluntary Termination.* You terminate your employment with the Company or a successor for any reason, including without limitation retirement, other than for Good Reason ("Voluntary Termination"). A Voluntary Termination includes, without limitation, a termination by you (i) after a failure by you to give a timely notice of termination for Good Reason, or (ii) after the Company timely cures the event(s) that are claimed to constitute Good Reason.

c. *Termination for Cause.* Your employment with the Company is terminated for Cause ("Termination for Cause");

- Your employment may be terminated for Cause by the Company effective upon the giving of written notice to you of such Termination for Cause, or effective upon another date as specified in such notice ("Notice of Termination for Cause").

- If within one (1) year after your employment terminates as the result of Good Reason Termination or Termination Without Cause, the Company determines that your employment could have been Terminated for Cause, your prior termination shall be recharacterized as a Termination for Cause upon the Company giving written notice to you (or to your estate in the event of your death). You (or your estate) shall have thirty (30) days to provide a written response to the Company. To the extent that the Company does not reverse its determination after receipt of your response, if any, you (or your estate) shall be obligated promptly to repay any Severance Payments paid to you under the Plan. The Company may take appropriate legal action to seek to recover any Severance Payments from you or your estate.

d. *Sale.* You work for a division, subdivision, plant, location, or entity which is sold or otherwise transferred to an entity other than Dover and its Subsidiaries in a transaction that does not constitute a Change-in-Control, regardless of whether the new owner offers continued or comparable employment to you.

e. New Employer. You begin working for another employer (whether regular or temporary and whether full-time or part-time) in any capacity, including as a consultant or independent contractor, before your "Date of Termination" (as defined in Article 14). You are required to immediately notify the Company in writing if you begin another job prior to your Date of Termination.

Article 4. <u>What Amounts Other than Severance Payments May be Payable to You</u>

Regardless of whether you are eligible for Severance Payments under the Plan, you may be entitled to receive benefits (other than severance payments) for which you are expressly eligible following your Date of Termination to the extent you are entitled under the terms and conditions of any other plans, policies, programs and/or arrangements of the Company, including without limitation, continuation health benefits under the federal law known as COBRA, amounts payable or benefits provided under the Dover Corporation 2012 Equity and Cash Incentive Plan and any successor plan (the "2012 Plan"), the Dover Corporation Pension Replacement Plan, the Dover Corporation Deferred Compensation Plan, the Dover Corporation Pension Plan, and the Dover Corporation Retirement Savings Plan.

Article 5. <u>What Severance Payments Are Payable under the Plan</u>

If you are eligible to receive Severance Payments under Article 2 above, and you have not become ineligible for the receipt of such Severance Payments due to a disqualifying event as described in Article 3 above or other provisions of the Plan, you shall be entitled to the following severance payments (the "Severance Payments"):

- A lump sum payment payable sixty (60) days following your Date of Termination equal to 2.0 multiplied by the sum of (i) your annual base salary on your Date of Termination (or, if higher, on the date of the Change-in-Control), and (ii) your target annual incentive bonus for the year in which the Date of Termination occurs (or, if higher, on the date of the Change-in-Control).

- A lump sum payment payable sixty (60) days following your Date of Termination equal to the then cost of COBRA health continuation coverage for yourself and covered family members for twelve months based on the level of health coverage, if any, in effect on your Date of Termination.

- If you die before receipt of all Severance Payments to which you are entitled, any payments due to you will be paid to your estate at the time they would have been payable to you.

- The Company's obligations to make Severance Payments to you are conditioned upon your timely execution (without revocation) of a separation agreement and a general release of all claims related to your employment and the termination of your employment in a form satisfactory to Dover (the "Separation Agreement and Release"). The Separation Agreement and Release shall include a confidentiality covenant, a non-disparagement covenant, a covenant for the protection of intellectual property, and a non-competition and non-solicitation restriction for twelve (12) months from the Date of Termination, as more fully set forth in such Separation Agreement and Release. Payments to you shall be made sixty (60) days from your Date of Termination as provided in this Article 5 above but only if you have executed such Separation Agreement and Release within forty-five (45) days following the Date of Termination and the applicable revocation period has expired. Where the forty-five (45) day period extends into the next year, payment shall be made in the next taxable year. If you should fail to execute such Separation Agreement and Release within forty-five (45) days following the Date of Termination or should you later revoke or violate the Separation Agreement and Release, the Company shall not have any obligation to make the payments contemplated under this Plan and you shall refund any Severance Payments made to you.

Article 6. <u>Claw-Back Provisions</u>

In addition to the right of the Company under Article 3(c) and Article 5 to recover amounts paid to you, in the event that you shall (i) breach the non-competition, non-disparagement, non-solicitation, confidentiality, intellectual property or other covenants or provisions of the Separation Agreement and Release, or (ii) be required by any claw-back policies of the Company, as in effect from time to time, or by applicable law, to refund payments received from the Company as the result of a restatement of the Company's financial statements or other events or conduct as may be specified in such policies from time to time or as may be required by applicable law, you shall be obligated promptly to refund the Severance Payments made to you. The Company may take appropriate legal action to seek to recover any Severance Payments from you or your estate.

Article 7. <u>Income Taxes</u>

Severance Payments are subject to all applicable federal, state, local and non-U.S. tax withholdings.

Article 8. <u>Section 409A of the Code</u>

Notwithstanding any other provision of the Plan, if any payment, compensation or other benefit provided to you in connection with your employment termination is determined, in whole or in part, to constitute "nonqualified deferred compensation" within the meaning of Section 409A of the Internal Revenue Code ("Code") and you are a "specified employee" as defined in Code Section 409A(a)(2)(b)(i), no part of such payments shall be paid before the day that is six (6) months plus one (1) day after your Date of Termination (such date, the "New Payment Date"). The aggregate of any payments that otherwise would have been paid to you during the period between your Date of Termination and the New Payment Date shall be paid to you in a lump sum on such New Payment Date. Thereafter, any payments that remain outstanding as of the day immediately following the New Payment Date shall be paid without delay over the time period originally scheduled in accordance with the terms of the Plan. If you die during the period between the Date of Termination and the New Payment Date, the amounts withheld on account of Code Section 409A shall be paid to your estate within ninety (90) days of your death.

For the avoidance of doubt, up to two (2) times the lesser of: (i) your Base Salary for the year preceding the year in which your Date of Termination occurs; and (ii) the maximum amount of compensation that may be taken into account under a qualified plan pursuant to Code Section 401(a)(17) for the year in which your Date of Termination occurs, shall be paid in accordance with the schedule set forth in Article 5, without regard to such six (6) month delay.

The provisions of the Plan are intended to be exempt from, or to comply with, the requirements of Code Section 409A, including without limitation, with the separation pay exemption and short-term deferral exemption of Code Section 409A. The Plan shall in all respects be administered in accordance with Code Section 409A and shall be interpreted in a manner to conform to the requirements of Code Section 409A. Notwithstanding anything in the Plan to the contrary, distributions may only be made under the Plan upon an event and in a manner permitted by Code Section 409A or an applicable exemption.

All payments to be made upon a termination of employment under the Plan may only be made upon a “separation from service” under Code Section 409A.

For purposes of Code Section 409A, the right to a series of installment payments under the Plan shall be treated as a right to a series of separate payments. In no event may you, directly or indirectly, designate the calendar year of a payment.

Article 9. <u>Excess Parachute Payments</u>

In the event that the Company determines that any payment or distribution to you by the Company in connection with a Change-in-Control, whether paid or payable under this Plan or by reason of any other agreement, policy, plan, program or arrangement, including without limitation, any outstanding award or right under the 2012 Plan, the Dover Corporation Pension Replacement Plan, or the Dover Corporation Deferred Compensation Plan (a “Payment”) would be subject to the excise tax imposed by Code Section 4999 (or any successor provision thereto) or to any similar tax imposed by state or local law, or any interest or penalties with respect to such tax (such tax or taxes, together with any such interest and penalties, being hereafter collectively referred to as the “Excise Tax”), and you would receive a greater net after-tax amount (taking into account all applicable taxes payable by you, including any excise tax under Code Section 4999) by applying the reduction contained in this Article 9, then the Severance Payments to you under this Plan shall be reduced (but not below zero) to the maximum amount which may be paid without you becoming subject to such an excise tax under Code Section 4999 (such reduced payments to be referred to as the “Payment Cap”). In the event that you are subject to the Payment Cap, the Company shall reduce payments to you under this Plan in reverse chronological order such that the last payments to be made to you will be reduced first until the Payment Cap is reached. The tax and benefit calculations contemplated by this paragraph shall be performed by Dover’s accountants or tax counsel, the fees of which shall be paid by Dover, including any fees incurred in connection with the audit of your tax return or appeal from any assessment.

Article 10. <u>Administration of Plan</u>

The “Plan Administrator” (as defined in Article 14) shall have the exclusive right, power, and authority, in its sole and absolute discretion, to administer, apply, and interpret the Plan and to decide all matters arising in connection with the operation or administration of the Plan to the extent not retained by Dover as set forth herein. Without limiting the generality of the foregoing, the Plan Administrator shall have the sole and absolute discretionary authority to:

- Make determinations as to whether an employee is, or is not, an Eligible Executive;
- Take all actions and make all decisions with respect to the eligibility for, and the amount of, Severance Payments payable under the Plan;
- Formulate, interpret and apply rules, regulations, and policies necessary to administer the Plan in accordance with its terms;
- Decide questions, including legal or factual questions, with regard to any matter related to the Plan;
- Construe and interpret the terms and provisions of the Plan and all documents which relate to the Plan and decide any and all matters arising thereunder including the right to remedy possible ambiguities, inconsistencies or omissions;
- Investigate and make such factual or other determinations as shall be necessary or advisable for the resolution of appeals of adverse determinations under the Plan; and
- Process, and approve or deny, claims for Severance Payments under the Plan and any appeals.

All determinations made by the Plan Administrator as to any question involving its respective responsibilities, powers and duties under the Plan shall be final and binding on all parties, to the maximum extent permitted by law. All determinations by Dover referred to in the Plan shall be made by Dover in its capacity as an employer and settlor of the Plan.

Article 11. <u>Modification or Termination of Plan</u>

Dover reserves the right, in its sole and absolute discretion, to amend, modify, or terminate the Plan, in whole or in part, including any or all of the provisions of the Plan, for any reason, at any time, by action of the Compensation Committee of Dover’s Board of Directors (“Compensation Committee”). This Plan does not give an Eligible Executive any vested right to Severance Payments. If the Plan is amended or terminated, your rights to receive Severance Payments may be eliminated. No individual may become entitled to benefits or other rights under the Plan after the Plan is terminated. In the event that an amendment to the Plan to be effective on or after a Change-in-Control is in the aggregate materially adverse to you (taking into account any aspects of such amendments that are beneficial to you), or the Plan is terminated on or after a Change-in-Control, no such amendment or termination shall be effective before the second anniversary of the Change-in-Control. In the event that a Change-in-Control occurs within twelve months after the effective date of an amendment to the Plan that is in the aggregate materially adverse to you (taking into account any aspects of such amendments that are beneficial to you), or the Plan is terminated twelve months prior to a Change-in-Control, such amendment or termination shall not be effective.

Article 12. <u>Claims and Appeal Procedures</u>

The Plan Administrator shall make a determination in connection with the termination of employment of an Eligible Executive as to whether a Severance Payment under the Plan is payable to such Eligible Executive and the amount thereof, taking into consideration any determination made by Dover as to the circumstances regarding the termination, the potential applicability of a disqualifying event, or the Plan Administrator's decision as to whether an employee is an Eligible Employee under the Plan. The Plan Administrator shall advise any Eligible Executive it determines is entitled to Severance Payments under the Plan as to the amount of Severance Payments payable under the Plan. The Plan Administrator may delegate any or all of its responsibilities under this section.

a. Claim Procedures

Each Eligible Executive or his or her authorized representative (each, the "Claimant") claiming Severance Payments under the Plan who has not been advised by the Plan Administrator as to his or her eligibility for Severance Payments, disagrees with a determination that he or she is not eligible for Severance Payments, disagrees with the amount of any Severance Payments awarded under the Plan, or disagrees with a decision to require him or her to repay an amount under the Plan, is eligible to file a written claim with the Plan Administrator.

Within ninety (90) days after receiving the claim, the Plan Administrator will decide whether or not to approve the claim. The ninety (90)-day period may be extended by the Plan Administrator up to an additional ninety (90)-day period if special circumstances require an extension of time to consider the claim. If the Plan Administrator extends the ninety (90)-day period, the Claimant will be notified in writing before the expiration of the initial ninety (90)-day period as to the length of the extension and the special circumstances that necessitate the extension.

If the claim is denied, the Plan Administrator shall set forth in writing (which notice may be electronic) the reasons for the denial; the relevant provisions of the Plan on which the decision is made; a description of the Plan's claim appeal procedures; and, if additional material or information is necessary to perfect the claim, an explanation of why such material or information is necessary. The notice will also include a statement regarding the procedures for the Claimant to file a request for review of the claim denial as set forth in the "Appeal Procedures" sub-section below and the Claimant's right to bring a civil action under Section 502(a) of the Employee Retirement Income Security Act of 1974, as amended ("ERISA") following a claim denial on appeal.

b. Appeal Procedures

If a claim has been denied by the Plan Administrator and the Claimant wishes further consideration and review of his or her claim, he or she must file an appeal of the denial of the claim to the Plan Administrator no later than sixty (60) days after the receipt of the written notification of the Plan Administrator's denial. In connection with his or her appeal, the Claimant may request the opportunity to review relevant documents prior to submission of a written statement, submit documents, records and comments in writing, and 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 Severance Payments under the Plan. The review of the appeal by the Plan Administrator will take into account all comments, documents, records and other information submitted by the Claimant relating to the claim, without regard to whether such information was submitted or considered in the initial review of the claim.

The Plan Administrator will notify the Claimant in writing (which notice may be electronic) of the Plan Administrator's decision with respect to its review of the appeal within sixty (60) days of the receipt of the request for a review of the claim. Due to special circumstances, the Plan Administrator may extend the time to reach a decision with respect to the appeal of the claim denial, in which case the Plan Administrator will notify the Claimant in writing before the expiration of the initial 60-day period as to the length of the extension and the special circumstances that necessitate such extension and render a decision as soon as possible, but not later than one hundred twenty (120) days following the receipt of the Claimant's request for appeal.

If the appeal is denied, the Plan Administrator will set forth in writing (which notice may be electronic) the specific reasons for the denial and references to the relevant Plan provisions on which the determination of the denial is based. The notice will also include a statement that the Claimant is entitled to receive, upon request and free of charge, reasonable access to, and copies of, all documents, records and other information relevant to the claim, and a statement of the Claimant's right to bring an action under Section 502(a) of ERISA.

c. Exhaustion of Remedies under the Plan

A Claimant wishing to seek judicial review of an adverse benefit determination under the Plan, whether in whole or in part, must file any suit or legal action, including, without limitation, a civil action under Section 502(a) of ERISA, within one (1) year of the date the final decision on the adverse benefit determination on review is issued or should have been issued or lose any rights to bring such an action. If any such judicial proceeding is undertaken, the evidence presented shall be strictly limited to the evidence timely presented to the Plan Administrator. A Claimant may bring an action under ERISA only after he or she has exhausted the Plan's claims and appeal procedures.

Article 13. <u>Miscellaneous Provisions</u>

- The records of the Company with respect to employment history, compensation, absences, illnesses, and all other relevant matters shall be conclusive for all purposes of this Plan.

- The respective terms and provisions of the Plan shall be construed, whenever possible, to be in conformity with the requirements of ERISA, or any subsequent laws or amendments thereto. To the extent not to conflict with the preceding sentence, the construction and administration of the Plan shall be in accordance with the laws of the state of Illinois applicable to contracts made and to be performed within the state of Illinois (without reference to its conflicts of law provisions).

- Nothing contained in this Plan shall be held or construed to create any liability upon the Company to retain any employee in its service or to change the employee-at-will status of any employee. All employees shall remain subject to the same terms and conditions of employment and discharge or discipline to the same extent as if the Plan had not been put into effect. An employee's failure to qualify for, or receive, a Severance Payment under the Plan shall not establish any right to (i) continuation or reinstatement, or (ii) any benefits in lieu of Severance Payments.

- The Company has the right to cancel a proposed termination of employment or reschedule a termination date at any time before your employment terminates. You will not become eligible for Severance Payments if your termination date is cancelled or if you voluntarily terminate employment before the termination date specified or rescheduled by the Company.

- Severance Payments under this Plan are not intended to duplicate such payments and benefits as may be provided under state, local or federal plant shut down, mass layoff or similar laws, such as the WARN Act. Should payments or benefits under such laws become payable to you, payments under this Plan will be offset or, alternatively, Severance Payments previously paid under this Plan will be treated as having been paid to satisfy such other benefit obligations to the extent permitted by applicable law. In either case, the Plan Administrator, in its sole discretion, will determine how to apply this provision and may override other provisions in this Plan in doing so.

- At all times, payments under the Plan shall be made from the general assets of the Company.

- Should any provisions of the Plan be deemed or held to be unlawful or invalid for any reason, the balance of the Plan shall remain in effect, unless it is amended or terminated as provided in the Plan.

- Except as required by law, the Severance Payments will not be subject to alienation, transfer, assignment, garnishment, execution or levy of any kind, and any attempt to cause such payments to be so subjected will not be recognized.

- If any overpayment is made under the Plan for any reason, the Plan Administrator will have the right to recover the overpayment.

- The Company shall cause this Plan to be assumed by a successor of the Company, whether such succession occurs by merger, asset sale or otherwise.

- Any notice or other written communication required or permitted pursuant to the terms of the Plan shall have been duly given (i) immediately when delivered by hand, (ii) three days after being mailed by United States Mail, first class, postage prepaid (or such local equivalent thereof), addressed to the intended recipient at his, her or its last known address, (iii) on the next business day after deposit with a courier or overnight delivery service post paid for next-day delivery and addressed in accordance with the last known address, or (iv) immediately upon delivery by facsimile or email to the telephone number or email address provided by a party for the receipt of notice.

Article 14. Definitions

Beneficial Owner	Shall have the meaning set forth in Rule 13d-3 under the "Securities Exchange Act of 1934" ("Exchange Act"), except that a "Person" (as defined in this Article 14) shall not be deemed to be the "Beneficial Owner" of any securities which are properly reported on a Form 13-F.
Cause	• You have engaged in conduct that constitutes willful misconduct, dishonesty, or gross negligence in the performance of your duties; you breach your fiduciary duties to your employer; or your willful failure to carry out the lawful directions of the person(s) to whom you report; • You have engaged in conduct which is demonstrably and materially injurious to your employer, or that materially harms the reputation, good will, or business of your employer; • You have engaged in conduct which is reported in the general or trade press or otherwise achieves general notoriety and which is scandalous, immoral or illegal; • You have been convicted of, or entered a plea of guilty or nolo contendere (or similar plea) to, a crime that constitutes a felony, or a crime that constitutes a misdemeanor involving moral turpitude, dishonesty or fraud; • You have been found liable in any Securities and Exchange Commission or other civil or criminal securities law action or any cease and desist order applicable to you is entered (regardless of whether or not you admit or deny liability); • You have used or disclosed, without authorization, confidential or proprietary information of Dover or its Subsidiaries; you have breached any written agreement with the Company not to disclose any information pertaining to Dover or its Subsidiaries or their customers, suppliers and businesses; or you have breached any agreement relating to non-solicitation, non-competition, or the ownership or protection of the intellectual property of Dover or its Subsidiaries; or

- You have breached any of the Company's policies applicable to you, whether currently in effect or adopted after the Effective Date of the Plan.

Change-in-Control A Change-in-Control shall be deemed to have taken place upon the occurrence of any of the following events:

(i) any Person is or becomes the Beneficial Owner, directly or indirectly, of securities of Dover (not including in the securities beneficially owned by such Person, any securities acquired directly from Dover or its affiliates) representing 20% or more of either the then outstanding shares of common stock of Dover or the combined voting power of Dover's then outstanding securities, excluding any Person who becomes such a Beneficial Owner in connection with a transaction described in clause (A) of sub-paragraph (iii) below. For purposes of this definition, the term "affiliate" shall mean any entity that directly or indirectly controls, is controlled by, or is under common control with Dover; or

(ii) the following individuals cease for any reason to constitute a majority of the members of Dover's Board of Directors then serving: individuals who, on the Effective Date of the Plan, constitute the Board and any new director (other than a director whose initial assumption of office is in connection with an actual or threatened election contest, including but not limited to a consent solicitation, relating to the election of directors of Dover) whose appointment or election by the Board or nomination for election by Dover's stockholders was approved or recommended by a vote of at least two-thirds of the directors then still in office who either were directors on the date hereof or whose appointment, election or nomination for election was previously so approved or recommended; or

(iii) there is consummated a merger or consolidation of Dover or any direct or indirect subsidiary of Dover with any other corporation, other than (A) a merger or consolidation which would result in the voting securities of Dover outstanding immediately prior to such merger or consolidation continuing to represent (either by remaining outstanding or by being converted into voting securities of the surviving entity or any parent thereof) at least 50% of the combined voting power of the voting securities of Dover or such surviving entity or any parent thereof outstanding immediately after such merger or consolidation, or (B) a merger or consolidation effected to implement a recapitalization of Dover (or similar transaction) in which no Person is or becomes the Beneficial Owner, directly or indirectly, of securities of Dover (not including in the securities Beneficially Owned by such Person any securities acquired directly from Dover or its affiliates) representing 20% or more of either the then outstanding shares of common stock of Dover or the combined voting power of Dover's then outstanding securities; or

(iv) the stockholders of Dover approve a plan of complete liquidation or dissolution of Dover or an agreement is entered into for the sale or disposition by Dover of all or substantially all of Dover's assets, other than a sale or disposition by Dover of all or substantially all of Dover's assets to an entity, at least 50% of the combined voting power of the voting securities of which are owned by stockholders of Dover in substantially the same proportions as their ownership of Dover immediately prior to such transaction or series of transactions.

Date of Termination	The date on which you incur a termination of employment or such other date on which you incur a "separation from service" determined under the provisions set forth in Section 1.409A-1(h) of the Treasury Regulations or any successor provisions. Pursuant to such provisions, you will be treated as no longer performing services for the Company when the level of services you perform for the Company decreases to a level equal to 20% or less of the average level of services performed by you during the immediately preceding thirty-six (36) months.
Disability	Disability shall be defined as set forth under the Company-sponsored Long-Term Disability Benefits Plan that covers you, as such plan shall be in effect from time to time. Any dispute concerning whether you are deemed to have suffered a Disability for purposes of the Plan shall be resolved in accordance with the dispute resolution procedures set forth in the Company-sponsored Long-Term Disability Benefits Plan in which you participate.

Good Reason	The occurrence of any of the following events without your written consent: • A material reduction in (i) the rate of your annual base salary (other than a salary reduction not to exceed 10% that applies to all other Eligible Executives in the Plan), (ii) the target level of your annual bonus, or (iii) the grant value to you of your long-term incentive awards; • Any material and adverse change in your title; • Any material and adverse reduction in your authorities, responsibilities, or reporting relationships; or • The relocation of your principal place of employment to a location more than fifty (50) miles from your principal place of employment (unless such relocation does not increase your commute by more than twenty (20) miles), except for required travel on the Company's business.
Plan Administrator	The Dover Corporation Compensation Committee.
Person	Shall have the meaning given in Section 3(a)(9) of the Exchange Act, as modified and used in Sections 13(d) and 14(d) thereof, except that such term shall not include (i) Dover or any of its affiliates, (ii) a trustee or other fiduciary holding securities under an employee benefit plan of Dover or any of its affiliates, (iii) an underwriter temporarily holding securities pursuant to an offering of such securities or (iv) a corporation owned, directly or indirectly, by the stockholders of Dover in substantially the same proportions as their ownership of stock of Dover.
Subsidiary	An entity in which Dover owns, directly or indirectly, at least 50% of the equity or voting interests

Article 15. Effective Date of Plan

The Plan is effective as of November 1, 2018.

SUMMARY OF ERISA RIGHTS

Your Rights Under ERISA

The Department of Labor has issued regulations that require the Company to provide you with a statement of your rights under ERISA with respect to this Plan. The following statement was designated by the Department of Labor to satisfy this requirement and is presented accordingly.

As a participant in the Plan, you are entitled to certain rights and protections under ERISA. ERISA provides that all Plan participants are entitled to:

Receive Information About Your Plan and Benefits

1. Examine, without charge, all Plan documents and copies of all documents filed by Dover with the Department of Labor and available at the Public Disclosure Room of the Employee Benefits Security Administration. This includes annual reports and Plan descriptions. All such documents are available for review from the Dover Human Resources Department.

2. Obtain, upon written request to the Plan Administrator, copies of documents governing the operation of the Plan, including copies of the latest annual report (Form 5500 Series) and any updated summary plan description. The Plan Administrator may charge you a reasonable fee for the copies.

3. Receive a summary of the Plan's annual financial report. Once each year, the Plan Administrator will send you a Summary Annual Report of the Plan's financial activities at no charge.

Prudent Action by 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.

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 benefit under the Plan or exercising your rights under ERISA.

Enforcing Your Rights

If your claim for Severance Payments is denied or ignored in whole or in part, you have a right to receive a written explanation of the reason for the denial, to obtain copies of documents related to the decision without charge, and to appeal any denial, all within certain time schedules. You have the right to have your claim reviewed and reconsidered as explained in the "Claims and Appeal Procedures" section.

Under ERISA, there are steps you can take to enforce the above rights. For instance, if you request materials from the Plan and do not receive them within thirty (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 Severance Payments which is denied or ignored, in whole or in part, you may file suit in a state or federal court after you have exhausted the Plan's claims and appeal procedures as described in the section "Claims and Appeal Procedures" hereof. If it should happen that Plan fiduciaries misuse the Plan's money, or if you are discriminated against for asserting your rights, you may seek assistance from the 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 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 the Plan, you should contact the Plan Administrator through the Dover Human Resources Department. They will be glad to help you. If you have any questions about this statement or about your rights under ERISA, or if you need assistance in obtaining documents from the Plan Administrator, you should contact the nearest Area Office of the Employee Benefits Security Administration, Department of Labor, listed in your telephone directory, or you may contact:

The Division of Technical Assistance and Inquiries
Employee Benefits Security Administration,
Department of Labor
200 Constitution Avenue, N.W., Room 5N625
Washington, DC 20210
1-866-444-EBSA (1-866-444-3272)
www.dol.gov/ebsa (for general information)
www.askebsa.dol.gov (for electronic inquiries)

You may also obtain certain publications about your rights and responsibilities under ERISA by calling the publications hotline of the Employee Benefits Security Administration at 1-866-444-3272.

Administrative Facts

Plan Name	Dover Corporation Senior Executive Change-in-Control Severance Plan
Plan Sponsor	Dover Corporation Highland Landmark V 3005 Highland Parkway, Suite 200 Downers Grove, Illinois 60515 USA 1-630-541-1540
Type of Plan	The Plan is a welfare benefit plan that provides severance benefits
Source of Contributions to Plan	Employer payments from general corporate assets
Plan Year	The Plan Year is January 1 through December 31
Employer Identification Number	53-0257888
Plan Number	[__]
Plan Administrator	Dover Corporation Highland Landmark V 3005 Highland Parkway, Suite 200 Downers Grove, Illinois 60515 USA 1-630-541-1540
Agent for Receiving Service of Legal Process	General Counsel Dover Corporation Highland Landmark V 3005 Highland Parkway, Suite 200 Downers Grove, Illinois 60515 USA 1-630-541-1540 Legal Process can also be served on the Plan Administrator

Named Fiduciary Dover Corporation Compensation Committee

Contact Information

If you have questions about this Plan, please contact Dover Human Resources at the coordinates below and they will provide you with this information.

Dover Human Resources

Phone:
Fax:
E-Mail:

Exhibit 10.18

DOVER CORPORATION
EXECUTIVE SEVERANCE PLAN
(As Amended and Restated Effective November 1, 2018)

Introduction

This Dover Corporation Executive Severance Plan (the "Plan") sets forth the policy of Dover Corporation, a Delaware corporation ("Dover"), and each of its Subsidiaries (as defined in Article 13) which employs an "Eligible Executive" (as defined in Article 1) with respect to "Severance Payments" (as defined in Article 5) payable to an Eligible Executive under the Plan. (Dover and such Subsidiaries are collectively referred to as the "Company".) This Executive Severance Plan constitutes the plan document and summary plan description for the Plan.

Article 1. Who is Eligible for Participation in the Plan

a. *Eligible Executives*. The individuals who shall be eligible to participate in the Plan shall be (i) the Chief Executive Officer ("CEO") of Dover plus (ii) any executive of the Company who is (A) employed in the United States, or (B) a U.S.-based employee temporarily assigned to the non-U.S. payroll of a Subsidiary on an expatriate assignment, and in each case whose annual base salary as in effect from time to time ("Base Salary") is determined under Dover's executive salary Bands 1 to 4, as in effect from time to time ("Eligible Executives"). If your Base Salary ceases to be determined under Dover's executive salary Bands 1 to 4, you shall cease to be eligible to participate in the Plan.

b. *Effect of Employment Agreement.* You shall not be eligible to participate in the Plan if you are party to a written agreement with the Company that provides for severance payments to you upon, or following, the termination of your employment.

c. *Other Plans.* If you are eligible to participate in this Plan, you shall not be eligible to participate in, or to receive any severance benefits under, any other severance plan, policy, practice, or arrangement maintained by the Company. If you become eligible to receive Severance Payments under the Dover Corporation Senior Executive Change-in-Control Severance Plan, you shall not be eligible to receive Severance Payments under this Plan.

Article 2. How Do You Become Eligible for Severance Payments under the Plan

You will be eligible for Severance Payments if you are an Eligible Employee and your employment is terminated by the Company without "Cause" (as defined in Article 13) ("Termination Without Cause").

Article 3. What Events Make You Ineligible for Severance Payments under the Plan

You shall not be entitled to receive Severance Payments under this Plan if any of the following disqualifying events occur:

a. *Death or Disability.* Your employment terminates due to death or, at the option of the Company, upon your “Disability” (as defined in Article 13);

b. *Voluntary Termination.* You elect to terminate your employment with the Company or a successor for any reason, including without limitation, retirement (“Voluntary Termination”).

c. *Termination for Cause.* Your employment with the Company is terminated for Cause (“Termination for Cause”);

- Your employment may be terminated for Cause by the Company effective upon the giving of written notice to you of such Termination for Cause, or effective upon another date as specified in such notice (“Notice of Termination for Cause”).

- If within one (1) year after your Termination Without Cause, the Company determines that your employment could have been Terminated for Cause, your prior termination shall be recharacterized as a Termination for Cause upon the Company giving written notice to you (or to your estate in the event of your death). You (or your estate) shall have thirty (30) days to provide a written response to the Company. To the extent that the Company does not reverse its determination after receipt of your response, if any, you (or your estate) shall be obligated promptly to repay any Severance Payments paid to you under the Plan. The Company may take appropriate legal action to seek to recover any Severance Payments from you or your estate.

d. *Sale.* You work for a division, subdivision, plant, location, or entity which is sold or otherwise transferred to an entity other than Dover and its Subsidiaries, regardless of whether the new owner offers continued or comparable employment to you.

e. *New Employer.* You begin working for another employer (whether regular or temporary and whether full-time or part-time) in any capacity, including as a consultant or independent contractor, before your “Date of Termination” (as defined in Article 13). You are required to immediately notify the Company in writing if you begin another job prior to your Date of Termination.

Article 4. <u>What Amounts Other than Severance Payments May be Payable to You</u>

Regardless of whether you are eligible for Severance Payments under the Plan, you may be entitled to receive benefits (other than severance payments) for which you are expressly eligible following your Date of Termination to the extent you are entitled under the terms and conditions of any other plans, policies, programs and/or arrangements of the Company, including without limitation, continuation health benefits under the federal law known as COBRA, amounts payable or benefits provided under the Dover Corporation 2012 Equity and Cash Incentive Plan and any successor plan (the “2012 Plan”), the Dover Corporation Pension Replacement Plan, the Dover Corporation Deferred Compensation Plan, the Dover Corporation Pension Plan, and the Dover Corporation Retirement Savings Plan.

Article 5. <u>What Severance Payments Are Payable under the Plan</u>

If you are eligible to receive Severance Payments under Article 2 above, and you have not become ineligible for the receipt of such Severance Payments due to a disqualifying event as described in Article 3 above or other provisions of the Plan, you shall be entitled to the following severance payments (the "Severance Payments"):

- Base Salary continuation paid in accordance with Dover's normal payroll practices for a twelve (12) month period following your Date of Termination (the "Severance Pay Period"), plus an additional monthly amount equal to the then cost of COBRA health continuation coverage for yourself and covered family members based on the level of health coverage in effect on your Date of Termination, if any, for the lesser of the Severance Period or the period that you receive COBRA benefits, with such payments to commence sixty (60) days from your Date of Termination, retroactive to your Date of Termination;

- An additional Severance Payment equal to a pro rata portion (based upon the completed calendar months worked in the year in which your Date of Termination occurs), of the target annual incentive bonus payable for the year in which your Date of Termination occurs, with such amount to be payable when an annual incentive bonus is regularly paid to employees for the year in which your Date of Termination occurs, which amount may, in the discretion of the Compensation Committee (or, if applicable, the manager who approves your bonus) be reduced based upon attainment of the performance criteria applicable to your award for the year of termination.

- With respect to the Cash Performance Award having a scheduled payment date next following your Date of Termination under the 2012 Plan, you shall be entitled to receive on the scheduled payment date of such award a pro rata portion (based upon the completed calendar months worked by you during the applicable performance period) of the payment, if any, you would have earned had you been an employee on the payment date, based upon attainment of the performance criteria applicable to your award for the applicable performance period (and taking into account the terms of the 2012 Plan), including but not limited to the discretion of the Compensation Committee to reduce such cash payment), with such amount to be payable when the cash performance award is regularly paid to employees for such year. The foregoing provision shall not be applicable to you if, on your Date of Termination, you are eligible for normal retirement under the 2012 Plan. Any amount payable to you under this provision shall be reduced by the amount of any Cash Performance Award payable to you under the 2012 Plan for the same year.

- If you die before receipt of all Severance Payments to which you are entitled, any payments due to you will be paid to your estate at the time they would have been payable to you.

- The Company’s obligations to make Severance Payments to you are conditioned upon your timely execution (without revocation) of a separation agreement and a general release of all claims related to your employment and the termination of your employment in a form satisfactory to Dover (the “Separation Agreement and Release”). The Separation Agreement and Release shall include a confidentiality covenant, a non-disparagement covenant, a covenant for the protection of intellectual property, and a non-competition and non-solicitation restriction for the duration of the Severance Pay Period, as more fully to be set forth in such Separation Agreement and Release. Payments to you shall be made sixty (60) days from your Date of Termination as provided in this Article 5 above but only if you have executed such Separation Agreement and Release within forty-five (45) days following the Date of Termination and the applicable revocation period has expired. Where the forty-five (45) day period extends into the next year, payment shall be made in the next taxable year. If you should fail to execute such Separation Agreement and Release within forty-five (45) days following the Date of Termination or should you later revoke or violate the Separation Agreement and Release, the Company shall not have any obligation to make the payments contemplated under this Plan and you shall refund any Severance Payments made to you.

Article 6. Claw-Back Provisions

In addition to the right of the Company, under Article 3(c) and Article 5, to recover amounts paid to you, in the event that you shall (i) breach the non-competition, non-disparagement, non-solicitation, confidentiality, intellectual property or other covenants or provisions of the Separation Agreement and Release, or (ii) be required by any claw-back policies of the Company, as in effect from time to time, or by applicable law, to refund payments received from the Company as the result of a restatement of the Company’s financial statements or other events or conduct as may be specified in such policies from time to time or as may be required by applicable law, you shall be obligated promptly to refund the Severance Payments made to you. The Company may take appropriate legal action to seek to recover any Severance Payments from you or your estate.

Article 7. Income Taxes

Severance Payments are subject to all applicable federal, state, local and non-U.S. tax withholdings.

Article 8. Section 409A of the Code

Notwithstanding any other provision of the Plan, if any payment, compensation or other benefit provided to you in connection with your employment termination is determined, in whole or in part, to constitute “nonqualified deferred compensation” within the meaning of Section 409A of the Code and you are a “specified employee” as defined in Code Section 409A(a)(2)(b)(i), no part of such payments shall be paid before the day that is six (6) months plus one (1) day after your Date of Termination (such date, the “New Payment Date”). The aggregate of any payments that otherwise would have been paid to you during the period between your Date of Termination and the New Payment Date shall be paid to you in a lump sum on such New Payment Date. Thereafter, any payments that remain outstanding as of the day immediately following the New Payment Date shall be paid without delay over the time period originally scheduled in accordance with the terms of the Plan. If you die during the period between the Date of

Termination and the New Payment Date, the amounts withheld on account of Code Section 409A shall be paid to your estate within ninety (90) days of your death.

For the avoidance of doubt, up to two (2) times the lesser of: (i) your Base Salary for the year preceding the year in which your Date of Termination occurs; and (ii) the maximum amount of compensation that may be taken into account under a qualified plan pursuant to Code Section 401(a)(17) for the year in which your Date of Termination occurs, shall be paid in accordance with the schedule set forth in Article 5, without regard to such six (6) month delay.
The provisions of the Plan are intended to be exempt from, or to comply with, the requirements of Code Section 409A, including without limitation, with the separation pay exemption and short-term deferral exemption of Code Section 409A. The Plan shall in all respects be administered in accordance with Code Section 409A and shall be interpreted in a manner to conform to the requirements of Code Section 409A. Notwithstanding anything in the Plan to the contrary, distributions may only be made under the Plan upon an event and in a manner permitted by Code Section 409A or an applicable exemption.

All payments to be made upon a termination of employment under the Plan may only be made upon a "separation from service" under Code Section 409A.
For purposes of Code Section 409A, the right to a series of installment payments under the Plan shall be treated as a right to a series of separate payments. In no event may you, directly or indirectly, designate the calendar year of a payment.

Article 9. Administration of Plan

The "Plan Administrator" (as defined in Article 13) shall have the exclusive right, power, and authority, in its sole and absolute discretion, to administer, apply, and interpret the Plan and to decide all matters arising in connection with the operation or administration of the Plan to the extent not retained by Dover as set forth herein. Without limiting the generality of the foregoing, the Plan Administrator shall have the sole and absolute discretionary authority to:

- Make determinations as to whether an employee is, or is not, an Eligible Executive;

- Take all actions and make all decisions with respect to the eligibility for, and the amount of, Severance Payments payable under the Plan;

- Formulate, interpret and apply rules, regulations, and policies necessary to administer the Plan in accordance with its terms;

- Decide questions, including legal or factual questions, with regard to any matter related to the Plan;

- Construe and interpret the terms and provisions of the Plan and all documents which relate to the Plan and decide any and all matters arising thereunder including the right to remedy possible ambiguities, inconsistencies or omissions;

- Investigate and make such factual or other determinations as shall be necessary or advisable for the resolution of appeals of adverse determinations under the Plan; and

- Process, and approve or deny, claims for Severance Payments under the Plan and any appeals.

All determinations made by the Plan Administrator as to any question involving its respective responsibilities, powers and duties under the Plan shall be final and binding on all parties, to the maximum extent permitted by law. All determinations by Dover referred to in the Plan shall be made by Dover in its capacity as an employer and settlor of the Plan.

Article 10. Modification or Termination of Plan

Dover reserves the right, in its sole and absolute discretion, to amend, modify, or terminate the Plan, in whole or in part, including any or all of the provisions of the Plan, for any reason, at any time, by action of the Compensation Committee. This Plan does not give an Eligible Executive any vested right to Severance Payments. If the Plan is amended or terminated, your rights to receive Severance Payments may be eliminated. No individual may become entitled to benefits or other rights under the Plan after the Plan is terminated.

Article 11. Claims and Appeal Procedures

The Plan Administrator shall make a determination in connection with the termination of employment of an Eligible Executive as to whether a Severance Payment under the Plan is payable to such Eligible Executive and the amount thereof, taking into consideration any determination made by Dover as to the circumstances regarding the termination, the potential applicability of a disqualifying event, or the Plan Administrator's decision as to whether an employee is an Eligible Employee under the Plan. The Plan Administrator shall advise any Eligible Executive it determines is entitled to Severance Payments under the Plan as to the amount of Severance Payments payable under the Plan. The Plan Administrator may delegate any or all of its responsibilities under this section.

a. Claim Procedures

Each Eligible Executive or his or her authorized representative (each, the "Claimant") claiming Severance Payments under the Plan who has not been advised by the Plan Administrator as to his or her eligibility for Severance Payments, disagrees with a determination that he or she is not eligible for Severance Payments, disagrees with the amount of any Severance Payments awarded under the Plan, or disagrees with a decision to require him or her to repay an amount under the Plan, is eligible to file a written claim with the Plan Administrator.

Within ninety (90) days after receiving the claim, the Plan Administrator will decide whether or not to approve the claim. The ninety (90)-day period may be extended by the Plan Administrator up to an additional ninety (90)-day period if special circumstances require an extension of time to consider the claim. If the Plan Administrator extends the ninety (90)-day period, the Claimant will be notified in writing before the expiration of the initial ninety (90)-day period as to the length of the extension and the special circumstances that necessitate the extension.
If the claim is denied, the Plan Administrator shall set forth in writing (which notice may be electronic) the reasons for the denial; the relevant provisions of the Plan on which the decision is

made; a description of the Plan's claim appeal procedures; and, if additional material or information is necessary to perfect the claim, an explanation of why such material or information is necessary. The notice will also include a statement regarding the procedures for the Claimant to file a request for review of the claim denial as set forth in the "Appeal Procedures" sub-section below and the Claimant's right to bring a civil action under Section 502(a) of the Employee Retirement Income Security Act of 1974, as amended ("ERISA") following a claim denial on appeal.

b. Appeal Procedures

If a claim has been denied by the Plan Administrator and the Claimant wishes further consideration and review of his or her claim, he or she must file an appeal of the denial of the claim to the Plan Administrator no later than sixty (60) days after the receipt of the written notification of the Plan Administrator's denial. In connection with his or her appeal, the Claimant may request the opportunity to review relevant documents prior to submission of a written statement, submit documents, records and comments in writing, and 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 Severance Payments under the Plan. The review of the appeal by the Plan Administrator will take into account all comments, documents, records and other information submitted by the Claimant relating to the claim, without regard to whether such information was submitted or considered in the initial review of the claim.

The Plan Administrator will notify the Claimant in writing (which notice may be electronic) of the Plan Administrator's decision with respect to its review of the appeal within sixty (60) days of the receipt of the request for a review of the claim. Due to special circumstances, the Plan Administrator may extend the time to reach a decision with respect to the appeal of the claim denial, in which case the Plan Administrator will notify the Claimant in writing before the expiration of the initial 60-day period as to the length of the extension and the special circumstances that necessitate such extension and render a decision as soon as possible, but not later than one hundred twenty (120) days following the receipt of the Claimant's request for appeal.

If the appeal is denied, the Plan Administrator will set forth in writing (which notice may be electronic) the specific reasons for the denial and references to the relevant Plan provisions on which the determination of the denial is based. The notice will also include a statement that the Claimant is entitled to receive, upon request and free of charge, reasonable access to, and copies of, all documents, records and other information relevant to the claim, and a statement of the Claimant's right to bring an action under Section 502(a) of ERISA.

c. Exhaustion of Remedies under the Plan

A Claimant wishing to seek judicial review of an adverse benefit determination under the Plan, whether in whole or in part, must file any suit or legal action, including, without limitation, a civil action under Section 502(a) of ERISA, within one (1) year of the date the final decision on the adverse benefit determination on review is issued or should have been issued or lose any rights to bring such an action. If any such judicial proceeding is undertaken, the evidence presented shall be strictly limited to the evidence timely presented to the Plan Administrator. A

Claimant may bring an action under ERISA only after he or she has exhausted the Plan's claims and appeal procedures.

Article 12. Miscellaneous Provisions

- The records of the Company with respect to employment history, compensation, absences, illnesses, and all other relevant matters shall be conclusive for all purposes of this Plan.

- The respective terms and provisions of the Plan shall be construed, whenever possible, to be in conformity with the requirements of ERISA, or any subsequent laws or amendments thereto. To the extent not to conflict with the preceding sentence, the construction and administration of the Plan shall be in accordance with the laws of the state of Illinois applicable to contracts made and to be performed within the state of Illinois (without reference to its conflicts of law provisions).

- Nothing contained in this Plan shall be held or construed to create any liability upon the Company to retain any employee in its service or to change the employee-at-will status of any employee. All employees shall remain subject to the same terms and conditions of employment and discharge or discipline to the same extent as if the Plan had not been put into effect. An employee's failure to qualify for, or receive, a Severance Payment under the Plan shall not establish any right to (i) continuation or reinstatement, or (ii) any benefits in lieu of Severance Payments.

- The Company has the right to cancel a proposed termination of employment or reschedule a termination date at any time before your employment terminates. You will not become eligible for Severance Payments if your termination date is cancelled or if you voluntarily terminate employment before the termination date specified or rescheduled by the Company.

- Severance Payments under this Plan are not intended to duplicate such payments and benefits as may be provided under state, local or federal plant shut down, mass layoff or similar laws, such as the WARN Act. Should payments or benefits under such laws become payable to you, payments under this Plan will be offset or, alternatively, Severance Payments previously paid under this Plan will be treated as having been paid to satisfy such other benefit obligations to the extent permitted by applicable law. In either case, the Plan Administrator, in its sole discretion, will determine how to apply this provision and may override other provisions in this Plan in doing so.

- At all times, payments under the Plan shall be made from the general assets of the Company.

- Should any provisions of the Plan be deemed or held to be unlawful or invalid for any reason, the balance of the Plan shall remain in effect, unless it is amended or terminated as provided in the Plan.

- Except as required by law, the Severance Payments will not be subject to alienation, transfer, assignment, garnishment, execution or levy of any kind, and any attempt to cause such payments to be so subjected will not be recognized.

- If any overpayment is made under the Plan for any reason, the Plan Administrator will have the right to recover the overpayment.

- The Company shall cause this Plan to be assumed by a successor of the Company, whether such succession occurs by merger, asset sale or otherwise.

- Any notice or other written communication required or permitted pursuant to the terms of the Plan shall have been duly given (i) immediately when delivered by hand, (ii) three days after being mailed by United States Mail, first class, postage prepaid (or such local equivalent thereof), addressed to the intended recipient at his, her or its last known address, (iii) on the next business day after deposit with a courier or overnight delivery service post paid for next-day delivery and addressed in accordance with the last known address, or (iv) immediately upon delivery by facsimile or email to the telephone number or email address provided by a party for the receipt of notice.

Article 13. Definitions

Cause

- You have engaged in conduct that constitutes willful misconduct, dishonesty, or gross negligence in the performance of your duties; you breach your fiduciary duties to your employer; or your willful failure to carry out the lawful directions of the person(s) to whom you report;

- You have engaged in conduct which is demonstrably and materially injurious to your employer, or that materially harms the reputation, good will, or business of your employer;

- You have engaged in conduct which is reported in the general or trade press or otherwise achieves general notoriety and which is scandalous, immoral or illegal;

- You have been convicted of, or entered a plea of guilty or nolo contendere (or similar plea) to, a crime that constitutes a felony, or a crime that constitutes a misdemeanor involving moral turpitude, dishonesty or fraud;

- You have been found liable in any Securities and Exchange Commission or other civil or criminal securities law action or any cease and desist order applicable to you is entered (regardless of whether or not you admit or deny liability);

- You have used or disclosed, without authorization, confidential or proprietary information of Dover or its Subsidiaries; you have breached any written agreement with the Company not to disclose any information pertaining to Dover or its Subsidiaries or their customers, suppliers and businesses; or you have breached any agreement relating to non-solicitation, non-competition , or the ownership or protection of the intellectual property of Dover or its Subsidiaries; or

- You have breached any of the Company's policies applicable to you, whether currently in effect or adopted after the Effective Date of the Plan.

Date of Termination	The date on which you incur a termination of employment or such other date on which you incur a "separation from service" determined under the provisions set forth in Section 1.409A-1(h) of the Treasury Regulations or any successor provisions. Pursuant to such provisions, you will be treated as no longer performing services for the Company when the level of services you perform for the Company decreases to a level equal to 20% or less of the average level of services performed by you during the immediately preceding thirty-six (36) months.
Disability	Disability shall be defined as set forth under the Company-sponsored Long-Term Disability Benefits Plan that covers you, as such plan shall be in effect from time to time. Any dispute concerning whether you are deemed to have suffered a Disability for purposes of the Plan shall be resolved in accordance with the dispute resolution procedures set forth in the Company-sponsored Long-Term Disability Benefits Plan in which you participate.
Plan Administrator	The Dover Corporation Benefits Commitee.
Subsidiary	An entity in which Dover owns, directly or indirectly, at least 50% of the equity or voting interests.

Article 14. Effective Date of Plan

The Plan is effective as of November 1, 2018.

SUMMARY OF ERISA RIGHTS

Your Rights Under ERISA

The Department of Labor has issued regulations that require the Company to provide you with a statement of your rights under ERISA with respect to this Plan. The following statement was designated by the Department of Labor to satisfy this requirement and is presented accordingly.

As a participant in the Plan, you are entitled to certain rights and protections under ERISA. ERISA provides that all Plan participants are entitled to:

Receive Information About Your Plan and Benefits

1. Examine, without charge, all Plan documents and copies of all documents filed by Dover with the Department of Labor and available at the Public Disclosure Room of the Employee Benefits Security Administration. This includes annual reports and Plan descriptions. All such documents are available for review from the Dover Human Resources Department.

2. Obtain, upon written request to the Plan Administrator, copies of documents governing the operation of the Plan, including copies of the latest annual report (Form 5500 Series) and any updated summary plan description. The Plan Administrator may charge you a reasonable fee for the copies.

3. Receive a summary of the Plan's annual financial report. Once each year, the Plan Administrator will send you a Summary Annual Report of the Plan's financial activities at no charge.

Prudent Action by 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.

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 benefit under the Plan or exercising your rights under ERISA.

Enforcing Your Rights

If your claim for Severance Payments is denied or ignored in whole or in part, you have a right to receive a written explanation of the reason for the denial, to obtain copies of documents related to the decision without charge, and to appeal any denial, all within certain time schedules. You have the right to have your claim reviewed and reconsidered as explained in the "Claims and Appeal Procedures" section.

Under ERISA, there are steps you can take to enforce the above rights. For instance, if you request materials from the Plan and do not receive them within thirty (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 Severance Payments which is denied or ignored, in whole or in part, you may file suit in a state or federal court after you have exhausted the Plan's claims and appeal procedures as described in the section "Claims and Appeal Procedures" hereof. If it should happen that Plan fiduciaries misuse the Plan's money, or if you are discriminated against for asserting your rights, you may seek assistance from the 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 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 the Plan, you should contact the Plan Administrator through the Dover Human Resources Department. They will be glad to help you. If you have any questions about this statement or about your rights under ERISA, or if you need assistance in obtaining documents from the Plan Administrator, you should contact the nearest Area Office of the Employee Benefits Security Administration, Department of Labor, listed in your telephone directory, or you may contact:

The Division of Technical Assistance and Inquiries
Employee Benefits Security Administration,
Department of Labor
200 Constitution Avenue, N.W., Room 5N625
Washington, DC 20210
1-866-444-EBSA (1-866-444-3272)
www.dol.gov/ebsa (for general information)
www.askebsa.dol.gov (for electronic inquiries)

You may also obtain certain publications about your rights and responsibilities under ERISA by calling the publications hotline of the Employee Benefits Security Administration at 1-866-444-3272.

Administrative Facts

Plan Name	Dover Corporation Executive Severance Plan
Plan Sponsor	Dover Corporation Highland Landmark V 3005 Highland Parkway, Suite 200 Downers Grove, Illinois 60515 USA 1-630-541-1540
Type of Plan	The Plan is a welfare benefit plan that provides severance benefits
Source of Contributions to Plan	Employer payments from general corporate assets
Plan Year	The Plan Year is January 1 through December 31
Employer Identification Number	53-0257888
Plan Number	[__]
Plan Administrator	Dover Corporation Benefits Committee Highland Landmark V 3005 Highland Parkway, Suite 200 Downers Grove, Illinois 60515 USA 1-630-541-1540
Agent for Receiving Service of Legal Process	General Counsel Dover Corporation Highland Landmark V 3005 Highland Parkway, Suite 200 Downers Grove, Illinois 60515 USA 1-630-541-1540 Legal Process can also be served on the Plan Administrator

Named Fiduciary Dover Corporation Benefits Committee

Contact Information

If you have questions about this Plan, please contact Dover Human Resources at the coordinates below and they will provide you with this information.

Dover Human Resources

Phone:
Fax:
E-Mail:

Exhibit 21

Dover Corporation - Domestic and Foreign Subsidiaries

Company Name	Where Incorporated
Domestic	
Alfred Fueling Systems Inc.	Delaware
Anman, LLC	Delaware
Anthony Equity Holdings, Inc.	Delaware
Anthony Holdings, Inc.	Delaware
Anthony Mexico Holdings LLC	Delaware
Anthony North Holdco, Inc.	Delaware
Anthony Specialty Glass LLC	Delaware
Anthony TemperBent GP LLC	Delaware
Anthony, Inc.	Delaware
Belvac Production Machinery, Inc.	Virginia
Caldera, Inc.	Minnesota
Canada Organization & Development LLC	Delaware
CEP Liquidation, LLC	Delaware
Chippewa Square Captive Insurance Company	Georgia
Colder Products Company	Minnesota
Cook Compression, LLC	Delaware
Cook-MFS, Inc.	Delaware
CP Formation LLC	Delaware
CPC Europe, Inc.	Minnesota
CPI Products, Inc.	Delaware
DD1 Inc.	Delaware
DDI Properties, Inc.	California
Delaware Capital Formation, Inc.	Delaware
Delaware Capital Holdings, Inc.	Delaware
De-Sta-Co Cylinders, Inc.	Delaware
DFH Corporation	Delaware
Dover Business Services LLC	Delaware
Dover DEI Services, Inc.	Delaware
Dover Energy, Inc.	Delaware
Dover Engineered Systems, Inc.	Delaware
Dover Europe, Inc.	Delaware
Dover Fluids, Inc.	Delaware
Dover Global Holdings, LLC	Delaware
Dover International Operations Inc.	Delaware
Dover International Ventures Inc.	Delaware
Dover Overseas Ventures, Inc.	Delaware
Dover Refrigeration & Food Equipment, Inc.	Delaware
Dover WSCR Holding LLC	Delaware
Dover WSCR LLC	Delaware
Dow-Key Microwave Corporation	Delaware
DSR BZ Holdings LLC	Delaware
EOA Systems, Inc.	Delaware
Ettlinger Management Inc.	Delaware
Ettlinger North America LP	Delaware
GAL, LLC	Virginia
Gala Industries, Incorporated	Virginia
GIIER, LLC	Virginia
Highland Park Insurance Company	Illinois
Hill PHOENIX WIC, LLC	Delaware
Hill PHOENIX, Inc.	Delaware

Hydro Systems Company	Delaware
Industrial Motion Control, LLC	Delaware
Inpro/Seal LLC	Delaware
JK Group USA, Inc.	Tennessee
K&L Microwave, Inc.	Delaware
K. S. Boca Inc.	Florida
Knappco, LLC	Delaware
KS Formation, Inc.	Delaware
KS Liquidation, Inc.	Texas
KSLP Liquidation, L.P.	Texas
Maag Automatik Inc.	North Carolina
Maag Pump Systems (US), Inc.	Delaware
Marathon Equipment Company (Delaware)	Delaware
MARKEM Holdings, Inc.	Vermont
MARKEM International, Inc.	New Hampshire
MARKEM Tag, Inc.	Delaware
MARKEM-IMAJE Corporation	New Hampshire
Midland Manufacturing, LLC	Delaware
MIP Holdings, Inc.	Delaware
Neptune Chemical Pump Company	Delaware
Northern Lights (Nevada), Inc.	Nevada
Northern Lights Funding LP	Delaware
Northern Lights Investments LLC	Delaware
Nova Controls, Inc.	Delaware
OK International Holdings, Inc.	Delaware
OK International, Inc.	California
OPW Engineered Systems, Inc.	Delaware
OPW Fluids Group, Inc.	Delaware
OPW Fuel Management Systems, Inc.	Delaware
OPW Fueling Components, LLC	Delaware
PDQ Manufacturing, Inc.	Delaware
Pike Machine Products, Inc.	New Jersey
PISCES by OPW, Inc.	Delaware
Piston OPW, Inc.	Delaware
Pole/Zero Acquisition, Inc.	Delaware
PSG Worldwide, Inc.	Delaware
Pump Management Services Co., LLC	Delaware
RAV Equipment U.S.A., Inc.	Florida
Revod Corporation	Delaware
Robohand, Inc.	Delaware
SE Liquidation, LLC	Delaware
Seabiscuit Motorsports, Inc.	Delaware
Simmons Sirvey Corporation	Texas
SWEP North America Inc.	Delaware
Tartan Textile Services, Inc.	Delaware
The Curotto-Can, LLC	Delaware
The Heil Co.	Delaware
TTSI III, Inc.	Delaware
Tulsa Winch, Inc.	Delaware
TXHI, LLC	Delaware
Unified Brands, Inc.	Delaware
Val TemperBent Glass, L.P.	Georgia
Vehicle Service Group, LLC	Delaware
Warn Automotive, LLC	Delaware
Waukesha Bearings Corporation	Delaware

Wayne Fueling Systems LLC	Delaware
Wilden Pump and Engineering LLC	Delaware
Foreign	
Advansor A/S	Denmark
Advansor Dover International (Poland) sp. z o.o	Poland
Alfred Fueling Systems Holdco Ltd.	Cayman Islands
Alfred Fueling Systems Intermediate Holdco Ltd.	Cayman Islands
ALMATEC Maschinenbau GmbH	Germany
Anthony International Foreign Sales Corp.	Barbados
Anthony International Holding Company	Cayman Islands
Automatik Grundstücksverwaltung GmbH & Co. KG	Germany
Automatik Plastics Machinery (Taiwan) Ltd.	Taiwan
Automatik Plastics Machinery Sdn. Bhd.	Malaysia
Background2 Limited	United Kingdom
Belvac Middle East FZE	Dubai
BlitzRotary GmbH	Germany
BSC Filters Limited	United Kingdom
Butler Engineering and Marketing S.P.A.	Italy
Caldera	France
Chief Automotive Technologies (Shanghai) Trading Company, Ltd.	China
Colder Products Company GmbH	Germany
Colder Products Company LTD	Hong Kong
Cook Compression BV	Netherlands
Cook Compression Limited	United Kingdom
De Sta Co (Asia) Company, Limited	Thailand
DE-STA-CO Benelux B.V.	Netherlands
Destaco Ema Industria e Comercio Ltda.	Brazil
DeStaCo Europe GmbH	Germany
DE-STA-CO FRANCE	France
DE-STA-CO Shanghai Co. Ltd.	China
Dover (China) Investment Co., Ltd.	China
Dover (Schweiz) Holding GmbH	Switzerland
Dover (Shanghai) Industrial Co., Ltd.	China
Dover (Shenzhen) Industrial Equipment Manufacturing Co., Ltd.	China
Dover (Suzhou) Industrial Equipment Manufacturing Co., Ltd.	China
Dover Asia Trading Private Ltd.	Singapore
Dover Australia Holdings Pty Limited	Australia
Dover Business Services EMEA Limited	Scotland
Dover Business Services Philippines Corporation	Philippines
Dover Canada Finance LP	Canada
Dover Canada Holdings ULC	British Columbia
Dover Canada Operations ULC	British Columbia
Dover CLP Formation Limited Partnership	British Columbia
Dover Corporation Regional Headquarters	China
Dover CR, spol s r.o.	Czech Republic
Dover Denmark Holdings ApS	Denmark
Dover do Brasil Ltda.	Brazil
Dover EMEA FZCO	Dubai
Dover Energy UK Ltd	England & Wales
Dover Engineered Systems UK Ltd	England & Wales
Dover Europe Sarl	Switzerland
Dover Fluids UK Ltd	United Kingdom
Dover France Holdings, S.A.S.	France
Dover France Participations SAS	France

Dover France Technologies	France
Dover Fueling Solutions UK Limited	United Kingdom
Dover Germany GmbH	Germany
Dover Global Trading Pte. Ltd.	Singapore
Dover Holdings de Mexico S.A. de C.V.	Mexico
Dover India Pvt. Ltd.	India
Dover Intercompany Services UK Limited	England & Wales
Dover International B.V.	Netherlands
Dover International ithalat ihracat ve Pazarlama Limited Sirketi	Turkey
Dover International Ventures Tunisia S.a.r.l.	Tunisia
Dover Italy Holdings S.r.l.	Italy
Dover Luxembourg Finance Sarl	Luxembourg
Dover Luxembourg Participations Sarl	Luxembourg
Dover Luxembourg S.a.r.l.	Luxembourg
Dover Luxembourg Services Sarl	Luxembourg
Dover Operations South Africa (Pty) Ltd	South Africa
Dover Refrigeration & Food Equipment UK Ltd	United Kingdom
Dover Resources International de Mexico S. de R.L. C.V.	Mexico
Dover Solutions Colombia SAS	Colombia
Dover Southeast Asia (Thailand) Ltd.	Thailand
Dover Spain Holdings, S.L.	Spain
Dover UK Pensions Limited	United Kingdom
Dressor Wayne Data Technology (Shanghai) Co. Ltd.	China
Dressor Wayne Fuel Equipment (Shanghai) Co. Ltd	China
Ebs-Ray Holdings Pty Ltd	New South Wales
Ebs-Ray Industries Pty. Ltd.	New South Wales
Ebs-Ray Pumps Pty. Ltd.	New South Wales
Ettlinger Kunststoffmaschinen GmbH	Germany
Ettlinger Vertrieb und Service GmbH & Co. KG	Germany
Ettlinger Verwaltungs-GmbH	Germany
Fairbanks Environmental Limited	England & Wales
Ferguson CO. S.A.	Belgium
Fibrelite Composites Limited	England & Wales
Fibresec Holdings Limited	England & Wales
Fibresec Limited	England & Wales
Finder Oriental (Beijing) Trading Co. Ltd	China
Finder Pompe S.R.L.	Italy
Finder United Saudi Arabia Company	Saudi Arabia
Gala Industries Asia Limited	Thailand
Gala Kunststoff-und Kautschukmaschinen GmbH	Germany
Guangdong Tokheim LIYUAN Oil Industry Technology Limited Company	China
Hill Phoenix Costa Rica, Sociedad De Responsabilidad Limitada	Costa Rica
Hill Phoenix de Mexico, S.A. de C.V.	Mexico
Hill Phoenix El Salvador, Limitada de Capital Variable	El Salvador
Hill Phoenix Guatemala, Sociedad Anonima	Guatemala
Hill Phoenix Honduras, Sociedad Anonima	Honduras
Hill Phoenix Nicaragua, Sociedad Anonima	Nicaragua
Hiltap Fittings Ltd.	Canada
Hydro Systems Europe Ltd.	United Kingdom
Hydronova Australia-NZ Pty Ltd	Australia
International Trade and Equipment B.V.	Netherlands
JK Group SPA	Italy
K&L Microwave DR, Inc.	British Virgin Islands
Kiian Digital (Shanghai) Co., Ltd.	China
KPS (Beijing) Petroleum Equipment Trading Co, Ltd.	China

KPS Asia Sdn. Bhd.	Malaysia
KPS Fueling Solutions Sdn. Bhd.	Malaysia
KPS Hong Kong Holding Limited	Hong Kong
KPS UK Limited	England & Wales
Lianyngang Jump Petroleum and Chemical Machinery Co., Ltd.	China
Liquip International Pty Limited	Victoria
Maag Automatik GmbH	Germany
Maag Automatik Plastics Machinery (Shanghai) Co. Ltd.	China
Maag Automatik Srl	Italy
Maag Pump Systems AG	Switzerland
Maag Pump Systems SAS	France
MARKEM FZ SA	Uruguay
Markem Imaje Center of Competencies Spain, S.L.U.	Spain
MARKEM S.A. de C.V.	Mexico
MARKEM UK Holdings 1 Unlimited	United Kingdom
MARKEM UK Holdings 2 Limited	United Kingdom
Markem-Imaje (China) Co., Limited	China
Markem-Imaje A/S	Denmark
Markem-Imaje AB	Sweden
Markem-Imaje AG	Switzerland
Markem-Imaje Application Innovation Center Sarl	Switzerland
Markem-Imaje AS	Norway
Markem-Imaje B.V.	Netherlands
Markem-Imaje Co., Ltd.	South Korea
Markem-Imaje CSAT GmbH	Germany
Markem-Imaje GmbH	Germany
Markem-Imaje Holding	France
Markem-Imaje Identificacao de Produtos Ltda.	Brazil
Markem-Imaje Inc.	Canada
Markem-Imaje India Private Limited	India
Markem-Imaje Industries	France
Markem-Imaje Industries Limited	United Kingdom
Markem-Imaje KK	Japan
Markem-Imaje Limited	Hong Kong
Markem-Imaje Limited	United Kingdom
Markem-Imaje LLC	Russian Federation
Markem-Imaje Ltd.	Taiwan
Markem-Imaje Ltd.	Thailand
Markem-Imaje N.V.	Belgium
Markem-Imaje Oy	Finland
Markem-Imaje Pty Ltd	Australia
Markem-Imaje S.A.	Argentina
Markem-Imaje S.A. de C.V.	Mexico
Markem-Imaje S.r.l. a socio unico	Italy
Markem-Imaje SAS	France
Markem-Imaje Sdn Bhd	Malaysia
Markem-Imaje Software Development Centre Pvt. Ltd.	India
Markem-Imaje Spain S.A.U	Spain
Markem-Imaje Unipessoal, Lda (Portugal)	Portugal
Markpoint Holding AB	Sweden
Mouvex	France
MS Printing Solutions S.R.L.	Italy
Officine Meccaniche Sirio S.R.L.	Italy
OK International (UK) Ltd.	United Kingdom
OPW Fluid Transfer Group Europe B.V.	Netherlands

OPW France	France
OPW Fueling Components (SuZhou) Co., Ltd.	China
OPW Iberia Sociedad Limitada	Spain
OPW Malaysia Sdn. Bhd.	Malaysia
OPW Slovakia s.r.o.	Slovakia
OPW Sweden AB	Sweden
Petro Vend Sp. z o.o.	Poland
Precision Brasil Equipamentos E Servicos Para Postos De Combustiveis Ltda.	Brazil
Precision Service - Servicos De Manutencao E Instalacao De Postos De Abastecimento De Combustivel Ltda.	Brazil
PSG (Shanghai) Co., Ltd	China
PSG (Tianjin) Co., Ltd.	China
Rav Equipment UK Limited	England & Wales
RAV Equipos Espana, S.L.	Spain
RAV France	France
Ravaglioli Deutschland GmbH	Germany
Ravaglioli S.P.A.	Italy
Reduction Engineering GmbH	Germany
Revod Finance Ireland Limited	Ireland
Revod Luxembourg S.a.r.l.	Luxembourg
Revod SAS	France
Revod Sweden AB	Sweden
Rosario Handel B.V.	Netherlands
Rotary Lift Consolidated (Haimen) Co., Ltd	China
Scheer Pelletizing Systems & Machinery (Shanghai) Co., Ltd	China
Scheer Taiwan Machinery Co., Ltd.	Taiwan
Space S.R.L.	Italy
Start Italiana Petrol Cihazlari Sanayi Ticaret Anonim Sirketi	Turkey
Start Italiana S.R.L.	Italy
SWEP A.G.	Switzerland
Swep Energy Oy	Finland
SWEP Germany GmbH	Germany
Swep International A.B.	Sweden
Swep Japan K.K.	Japan
SWEP Malaysia Sdn. Bhd.	Malaysia
SWEP Slovakia s.r.o.	Slovakia (slovak Republic)
SWEP Technology (Suzhou) Co., Ltd.	China
Tokheim Belgium	Belgium
Tokheim China Company Limited	Hong Kong
Tokheim GmbH	Germany
Tokheim Group	France
Tokheim Guardian Venture Sdn. Bhd	Malaysia
Tokheim Hengshan Technologies (Guangzhou) Co. Ltd.	China
Tokheim Holding	France
Tokheim Holding B.V.	Netherlands
Tokheim India Private Limited	India
Tokheim Netherlands B.V.	Netherlands
Tokheim Sofitam Applications	France
TQC Quantium Quality, S.A. de C.V.	Mexico City, District Federal
Trans - Logistic Group S.R.L.	Italy
TWG Canada Consolidated Inc.	British Columbia
Vectron Frequency Devices (Shanghai) Co., Ltd	China
Vos Food Store Equipment Ltd.	Ontario
Waukesha Bearings Limited	United Kingdom
Waukesha Bearings Russia LLC	Russian Federation
Wayne Fuel Management UK Ltd.	England & Wales

Wayne Fueling Systems (Rus) Limited Liability Company	Russian Federation
Wayne Fueling Systems Australia Pty Ltd	Victoria
Wayne Fueling Systems Canada ULC	British Columbia
Wayne Fueling Systems Deutschland GmbH	Germany
Wayne Fueling Systems Italia S.R.L.	Italy
Wayne Fueling Systems Ltd.	Cayman Islands
Wayne Fueling Systems Pte. Ltd.	Singapore
Wayne Fueling Systems Sweden AB	Sweden
Wayne Fueling Systems UK Holdco Ltd.	England & Wales
Wayne Industria e Comercio Ltda.	Brazil
Wei Li Pump Shanghai Co., LTD.	China

Exhibit 23

CONSENT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

We hereby consent to the incorporation by reference in the Registration Statements on Form S-3 (No. 333-216433) and Form S-8 (Nos. 333-01419, 333-64160, 333-125072, 333-183414, and 333-192604) of Dover Corporation of our report dated February 15, 2019 relating to the financial statements, financial statement schedule, and the effectiveness of internal control over financial reporting, which appears in this Form 10-K.

/s/ PricewaterhouseCoopers LLP
Chicago, Illinois
February 15, 2019

Exhibit 31.1

Certification

I, Brad M. Cerepak, certify that:

1. I have reviewed this Annual Report on Form 10-K of Dover Corporation;

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: February 15, 2019

/s/ Brad M. Cerepak

Brad M. Cerepak
Senior Vice President & Chief Financial Officer
(Principal Financial Officer)

Exhibit 31.2

Certification

I, Richard J. Tobin, certify that:

1. I have reviewed this Annual Report on Form 10-K of Dover Corporation;

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: February 15, 2019

/s/ Richard J. Tobin

Richard J. Tobin
President and Chief Executive Officer

Exhibit 32

Certification

Pursuant to Section 906 of the Sarbanes-Oxley Act of 2002
with Respect to the Annual Report on Form 10-K
for the Period ended December 31, 2018
of Dover Corporation

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 Dover Corporation, a Delaware corporation (the “Company”), does hereby certify, to such officer’s knowledge, that:

1. The Company’s Annual Report on Form 10-K for the period ended December 31, 2018 (the “**Form 10-K”**) fully complies with the requirements of Section 13(a) of the Securities Exchange Act of 1934, as amended; and

2. Information contained in the Form 10-K fairly presents, in all material respects, the financial condition and results of operations of the Company.

Dated:	February 15, 2019	/s/ Richard J. Tobin
		Richard J. Tobin
		President and Chief Executive Officer
Dated:	February 15, 2019	/s/ Brad M. Cerepak
		Brad M. Cerepak
		Senior Vice President & Chief Financial Officer
		(Principal Financial Officer)

The certification set forth above is being furnished as an exhibit solely pursuant to Section 906 of the Sarbanes-Oxley Act of 2002 and is not being filed as part of the Form 10-K or as a separate disclosure document of the Company or the certifying officers.