

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 the fiscal year ended September 30, 2018

OR

TRANSITION REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934
For the transition period from to
Commission file number 1-278

EMERSON ELECTRIC CO.

(Exact name of registrant as specified in its charter)

Missouri

(State or other jurisdiction of incorporation or organization)

8000 W. Florissant Ave.

P.O. Box 4100

St. Louis, Missouri

(Address of principal executive offices)



EMERSON

43-0259330

(I.R.S. Employer Identification No.)

63136

(Zip Code)

Registrant's telephone number, including area code: (314) 553-2000

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

Table with 2 columns: Title of each class, Name of each exchange on which registered. Row 1: Common Stock of \$0.50 par value per share, New York Stock Exchange, Chicago 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 [X] No []

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

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 [X] No []

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

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. [X]

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

Large accelerated filer

Non-accelerated filer

Accelerated filer

Smaller reporting company

Emerging growth company

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

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

Aggregate market value of the voting stock held by nonaffiliates of the registrant as of close of business on March 31, 2018: \$42.9 billion .

Common stock outstanding at October 31, 2018 : 626,158,598 shares.

Documents Incorporated by Reference

1. Portions of Emerson Electric Co. Notice of 2019 Annual Meeting of Shareholders and Proxy Statement incorporated by reference into Part III hereof.
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PART I

ITEM 1 - BUSINESS

Emerson (“the Company”) was incorporated in Missouri in 1890, and has evolved through internal growth and strategic acquisitions and divestitures from a regional manufacturer of electric motors and fans into a global leader that brings technology and engineering together to provide innovative solutions for customers in a wide range of industrial, commercial and consumer markets around the world. Total Emerson sales by geographic destination in 2018 were: the United States and Canada, 49 percent; Asia, 23 percent; Europe, 17 percent; Latin America, 5 percent; and Middle East/Africa, 6 percent.

In connection with the strategic portfolio repositioning actions undertaken to transform the Company into a more focused enterprise, its businesses and organization were realigned. In fiscal 2017, the Company began reporting three segments: **Automation Solutions**, and **Climate Technologies** and **Tools & Home Products** which together comprise the **Commercial & Residential Solutions** business. A summary of the Company’s businesses is described below.

- **Automation Solutions** - enables process, hybrid and discrete manufacturers to maximize production, protect personnel and the environment, and optimize their energy efficiency and operating costs through a broad offering of products and integrated solutions, including measurement and analytical instrumentation, industrial valves and equipment, and process control systems.
- **Commercial & Residential Solutions** - provides products and solutions that promote energy efficiency, enhance household and commercial comfort, and protect food quality and sustainability through heating, air conditioning and refrigeration technology, as well as a broad range of tools and appliance solutions.

In 2017, the Company’s strategic portfolio repositioning actions resulted in the sale of the network power systems business and the sale of the power generation, motors and drives business. These businesses have been reported in discontinued operations for all periods presented until disposal. The Company’s process of transforming its Automation Solutions and Commercial & Residential Solutions businesses was ongoing as these repositioning actions were being completed. On April 28, 2017, the Company completed the acquisition of Pentair’s valves & controls business, which is reported in the Automation Solutions segment and complements the Valves, Actuators & Regulators product offering. In 2018, the Company continued to expand the product offerings within its two businesses. This included the acquisitions of Paradigm, a provider of software solutions for the oil and gas industry, and Aventics, a global provider of smart pneumatics technologies, which are reported in Automation Solutions. The Company also made two strategic acquisitions to strengthen its Commercial & Residential Solutions business: Textron’s tools and test equipment business, a manufacturer of electrical and utility tools, diagnostics, and test and measurement instruments, and Cooper-Atkins, which offers temperature management and monitoring products for foodservice markets. In the first quarter of 2018 the Company also completed the sale of its residential storage business. Information with respect to acquisition and divestiture activity, including the discontinued businesses, is set forth in Notes 3 and 4. These references and all other Note references in this document refer to Notes to Consolidated Financial Statements set forth in Item 8 of this Annual Report on Form 10-K, which notes are hereby incorporated by reference. See also Item 1A - “Risk Factors” and Item 7 - “Management’s Discussion and Analysis of Financial Condition and Results of Operations.”

AUTOMATION SOLUTIONS

The Automation Solutions segment offers a broad array of products, integrated solutions, software and services which enable process, hybrid and discrete manufacturers to maximize production, protect personnel and the environment, reduce project costs, and optimize their energy efficiency and operating costs. Significant markets served include oil and gas, refining, chemicals and power generation, as well as pharmaceuticals, food and beverage, automotive, pulp and paper, metals and mining, and municipal water supplies. The segment’s major product offerings are Measurement & Analytical Instrumentation, Valves, Actuators & Regulators, Industrial Solutions and Process Control Systems & Solutions, which are further described below.

Across these product offerings, Automation Solutions offers the Plantweb™ Digital Ecosystem, a comprehensive Industrial Internet of Things (IIoT) architecture that combines intelligent field sensors, communication gateways and controllers, software, and complementary partner technologies. This IIoT architecture delivers measurable business performance improvements to customers by providing insights into production performance, energy consumption,

reliability of specific equipment or process units, and safety. Together with the broad offering of products and integrated solutions, Automation Solutions also provides a portfolio of services and lifecycle service centers which offer consulting, engineering, systems development, project management, training, maintenance, and troubleshooting expertise to aid in process optimization. Sales by geographic destination in 2018 for Automation Solutions were: the United States and Canada, 43 percent; Asia, 24 percent; Europe, 20 percent; Latin America, 5 percent; and Middle East/Africa, 8 percent.

Measurement & Analytical Instrumentation

Measurement instrumentation measures the physical properties of liquids or gases in a process stream, such as pressure, temperature, level, rate and amount of flow, and communicates this information to a process control system or other software applications. Measurement technologies provided by the Company include Coriolis direct mass flow, magnetic flow, vortex flow, ultrasonic flow, differential pressure, ultra-low flow fluid measurement, corrosion measurement, acoustic measurement, temperature sensors, radar-based tank gauging and magnetic level gauging. The Company's measurement products are often used in custody transfer applications, such as the transfer of gasoline from a storage tank to a tanker truck, where precise metering of the amount of fluid transferred helps ensure accurate asset management. Complementary products include onshore and subsea multi-phase meters, wet gas meters, downhole gauges and corrosion/erosion measuring instruments.

Analytical instrumentation analyzes the chemical composition of process fluids and emissions to enhance quality and efficiency, as well as environmental compliance. The Company's analytical technologies include process gas chromatographs, in-situ oxygen analyzers, infrared gas and process fluid analyzers, combustion analyzers and systems, and analyzers that measure pH, conductivity and water quality. The Company provides sensors to detect combustible and toxic gases, and flames. These devices support the safety of both people and process plant assets.

Measurement and analytical instrumentation technologies are also available with highly secure and reliable wireless communication capability, allowing customers to monitor processes or equipment that were previously not measurable (remote, moving/rotating) or not economical to measure due to the high cost and difficulty of running wires in industrial process plants.

On December 1, 2017, the Company acquired Paradigm, enhancing its software solutions offerings in the oil and gas industry. This technology creates a more comprehensive digital portfolio from exploration to production and enables Emerson to help oil and gas operators increase efficiency and reduce costs. See Note 3.

Valves, Actuators & Regulators

The primary role of an industrial valve is to control, isolate, or regulate the flow of liquids or gases to achieve safe operation along with reliability and optimized performance.

Control, isolation and pressure relief valves respond to commands from a control system to continuously and precisely modulate the flow of process fluids. Engineered on/off valves are typically used to achieve tight shutoff, even in high pressure and temperature processes. The Company designs, engineers and manufactures ball, gate, globe, check, sliding stem, rotary, high performance butterfly, triple offset, and severe services valves for critical applications. The Company also designs and manufactures sophisticated smart actuation and control technologies that continuously monitor valve health and remotely control valve positions to foster proactive and predictive maintenance as well as decrease the risk of unplanned shutdowns.

The Company provides pressure management products, including pressure relief, vacuum relief, and gauge valves designed to control fugitive emissions. The Company also supplies a line of industrial and residential regulators, whose function is to reduce the pressure of fluids moving from high-pressure supply lines into lower pressure systems, and also manufactures tank and terminal safety equipment, including hatches, vent pressure and vacuum relief valves, and flame arrestors for storage tanks in the oil and gas, petrochemical, refining and other process industries.

On April 28, 2017, the Company acquired Pentair's valves & controls business, which manufactures control, isolation and pressure relief valves and actuators. These products complement Emerson's existing offerings, creating a comprehensive valve solutions portfolio that is supported by an extensive service network. See Note 3.

Industrial Solutions

Industrial Solutions include fluid control and pneumatic mechanisms, electrical distribution equipment, materials joining solutions and precision cleaning products which are used in a variety of manufacturing operations to provide integrated solutions to customers. Pneumatic products transform air or gas into energy and power for use in manufacturing operations such as food processing and packaging, life sciences and petrochemical processing. Products include solenoid and pneumatic valves, valve position indicators, pneumatic cylinders and actuators, air preparation equipment, and pressure, vacuum, temperature switches and automobile assembly. Electrical distribution consists of a broad line of components for current- and noncurrent-carrying electrical distribution devices, including conduit and cable fittings, plugs and other receptacles, industrial lighting, enclosures and controls. Electrical distribution products are used in hazardous, industrial and commercial environments, such as oil and gas drilling and production sites, petrochemical plants and commercial buildings. Plastic and metal joining technologies and equipment are supplied to a diversified manufacturing customer base, including automotive, medical devices, business and consumer electronics, and textile manufacturing. The Company also provides precision cleaning and liquid processing solutions to industrial and commercial manufacturers. Products include ultrasonic joining and cleaning equipment; linear and orbital vibration welding equipment; systems for hot plate, spin and laser welding; and aqueous, semi-aqueous and vapor cleaning systems.

On July 17, 2018, the Company completed the acquisition of Aventics, a global provider of smart pneumatics technologies that power machine and factory automation applications. This acquisition significantly expands Emerson's fluid automation technologies for process and industrial applications. See Note 3.

Process Control Systems & Solutions

The Company provides process control systems and software that control plant processes by collecting and analyzing information from measurement devices in the plant, and then use that information to adjust valves, pumps, motors, drives and other control hardware for maximum product quality and process efficiency and safety. Software capabilities also include life sciences operations management, upstream oil and gas reservoir simulation and production optimization modeling, pipeline and terminal management, operations management simulation, and training systems. The Company's process control systems can be extended wirelessly to support a mobile workforce with handheld tools/communicators, provide site-wide location tracking of people and assets, and enable video monitoring and communication with wireless field devices, thereby increasing the information available to operators.

Distribution

The principal worldwide distribution channel for Automation Solutions is a direct sales force, although a network of independent sales representatives, and to a lesser extent independent distributors purchasing products for resale, are also utilized. Approximately half of the sales in the United States are made through a direct sales force with the remainder primarily through independent sales representatives and distributors. In Europe and Asia, sales are primarily made through a direct sales force with the remainder split evenly between independent sales representatives and distributors.

Brands

Service/trademarks and trade names within (but not exclusive to) Automation Solutions include Emerson Automation Solutions, Appleton, ASCO, Aventics, Bettis, Branson, DeltaV, Fisher, Keystone, KTM, Micro Motion, Ovation, Plantweb, Rosemount and Vanessa.

COMMERCIAL & RESIDENTIAL SOLUTIONS

The Commercial & Residential Solutions business consists of the Climate Technologies and Tools & Home Products segments, and provides products and solutions that promote energy efficiency, enhance household and commercial comfort, and protect food quality and sustainability through heating, air conditioning and refrigeration technology, as well as a broad range of tools and appliance solutions. Sales by geographic destination in 2018 for Commercial & Residential Solutions were: the United States and Canada, 61 percent; Asia, 20 percent; Europe, 11 percent; Latin America, 5 percent; and Middle East/Africa, 3 percent.

CLIMATE TECHNOLOGIES

The Climate Technologies segment provides products and services for many areas of the climate control industry, including residential heating and cooling, commercial air conditioning, commercial and industrial refrigeration, and cold chain management. The Company's technologies enable homeowners and businesses to better manage their heating, air conditioning and refrigeration systems for improved control and comfort, and lower energy costs. Climate Technologies also provides services that digitally control and remotely monitor refrigeration units in grocery stores and other food distribution outlets to enhance food freshness and safety, as well as cargo and transportation monitoring solutions. Sales by geographic destination in 2018 for Climate Technologies were: the United States and Canada, 54 percent; Asia, 25 percent; Europe, 10 percent; Latin America, 7 percent; and Middle East/Africa, 4 percent.

Residential and Commercial Heating and Air Conditioning

The Company provides a full range of heating and air conditioning products that help reduce operational and energy costs and create comfortable environments in all types of buildings. These products include reciprocating and scroll compressors, including ultra-efficient residential scroll compressors with two stages of cooling capacity, as well as variable speed scroll compressors; system protector and flow control devices; standard, programmable and Wi-Fi thermostats; monitoring equipment and electronic controls for gas and electric heating systems; gas valves for furnaces and water heaters; ignition systems for furnaces; sensors and thermistors for home appliances; and temperature sensors and controls.

Commercial and Industrial Refrigeration

Commercial and industrial refrigeration technologies are incorporated into equipment to refrigerate food and beverages in supermarkets, convenience stores, food service operations, refrigerated trucks and refrigerated marine transport containers. Climate Technologies refrigeration products are also used in a wide variety of industrial applications, including medical applications, food processing and cold storage. Products include reciprocating, scroll and screw compressors; precision flow controls; system diagnostics and controls that provide precise temperature management; and environmental control systems. Transport and cargo monitoring solutions are also offered, which extend throughout the cold chain to ensure quality and safety as food travels from growers to processing and distribution facilities, and finally to retail points of sale.

Services and Solutions

Services and solutions provides air conditioning, refrigeration and lighting control technologies that enable global customers to optimize the performance of facilities, including large-scale retailers, supermarkets, convenience stores and food service operations. The Company's expertise allows customers to reduce energy and maintenance costs, thereby improving overall facility efficiency and uptime. In addition to industry-leading controls, services include facility design and product management, site commissioning, facility monitoring and energy modeling.

In 2018, the Company completed an acquisition to expand its cold chain portfolio of products and services to include temperature management and monitoring products for foodservice markets.

Distribution

Climate Technologies' sales, primarily to original equipment manufacturers and end users, are made predominately through worldwide direct sales forces. Remaining sales are primarily through independent distributor networks throughout the world.

Brands

Service/trademarks and trade names within (but not exclusive to) the Climate Technologies segment include Emerson Commercial & Residential Solutions, Emerson Climate Technologies, Cooper-Atkins, Copeland, CoreSense, Dixell, Fusite, ProAct, Sensi, Therm-O-Disc, Vilter and White-Rodgers.

TOOLS & HOME PRODUCTS

The Company's Tools & Home Products segment offers tools for professionals and homeowners and appliance solutions. Sales by geographic destination in 2018 for this segment were: the United States and Canada, 81 percent; Asia, 5 percent; Europe, 11 percent; Latin America, 2 percent; and Middle East/Africa, 1 percent.

Professional Tools

Pipe-working tools are used by plumbing and mechanical professionals to install and repair piping systems. Products include pipe wrenches, pipe cutters, pipe threading and roll grooving equipment, mechanical crimping tube joining systems, drain cleaners, tubing tools, and diagnostic systems, including closed-circuit television pipe inspection and locating equipment. Electrical tools are used by industry professionals for numerous tasks related to the installation of wire and cable, including bending, termination and hole-making. Other professional tools include water jetters, wet-dry vacuums, commercial vacuums and bolt cutters. The Company also offers do-it-yourself tools, available at retail home improvement outlets, which include drain cleaning equipment, pipe and tube working tools, and wet-dry vacuums.

On July 2, 2018, the Company completed the acquisition of Textron's tools and test equipment business, which manufactures electrical and utility tools, diagnostics, and test and measurement instruments. These products expand Emerson's professional tools business, creating a broad offering for mechanical, electrical and plumbing contractors. See Note 3.

Appliance Solutions

The Company provides a number of appliance solutions, including residential and commercial food waste disposers, ceiling fans, instant hot water dispensers and compact electric water heaters.

Distribution

The principal worldwide distribution channels for Tools & Home Products are distributors and direct sales forces. Professional tools are sold worldwide almost exclusively through distributors. Appliance solutions are sold through direct sales force networks, distributors and online retailers. Approximately one-third of this segment's sales are made to a small number of big box retail outlets.

Brands

Service/trademarks and trade names within (but not exclusive to) the Tools & Home Products segment include Emerson, Emerson Professional Tools, Badger, Greenlee, Grind2Energy, InSinkErator, Klauke, ProTeam and RIDGID.

On October 2, 2017, the Company sold its residential storage business. See Note 3.

DISCONTINUED OPERATIONS

The network power systems business and the power generation, motors and drives business were sold in 2017 and are reported as discontinued operations in the Consolidated Financial Statements for all years presented until disposal. See Note 4.

PRODUCTION

The Company utilizes various production operations and methods. The principal production operations are electronics assembly, metal stamping, forming, casting, machining, welding, plating, heat treating, painting and assembly. In addition, the Company uses specialized production operations, including automatic and semiautomatic testing, automated material handling and storage, ferrous and nonferrous machining, and special furnaces for heat treating and foundry applications. Management believes the equipment, machinery and tooling used in these processes are of modern design and well maintained.

RAW MATERIALS

The Company's major requirements for basic raw materials include steel, copper, cast iron, electronics, rare earth metals, aluminum and brass; and to a lesser extent, plastics and petroleum-based chemicals. The Company seeks to have many sources of supply for each of its major requirements in order to avoid significant dependence on any one or a few suppliers. However, the supply of materials or other items could be disrupted by natural disasters or other events. Despite market price volatility for certain materials and pricing pressures at some of our businesses, the raw materials and various purchased components needed for the Company's products have generally been available in sufficient quantities.

PATENTS, TRADEMARKS AND LICENSES

The Company maintains an intellectual property portfolio it has developed or acquired over a number of years, including patents, trademarks and licenses. The Company also continues to develop or acquire new intellectual property. New patent applications are continuously filed to protect the Company's ongoing research and development activities. The Company's trademark registrations may be renewed and their duration is dependent upon national laws and trademark use. While this proprietary intellectual property portfolio is important to the Company in the aggregate, management does not regard any of its segments as being dependent on any single patent, trademark registration or license.

BACKLOG

The Company's estimated consolidated order backlog was \$4,966 million and \$4,894 million at September 30, 2018 and 2017, respectively. A large majority of the consolidated backlog as of September 30, 2018 is expected to be shipped within one year. Backlog by business at September 30, 2018 and 2017 follows (dollars in millions).

	2017	2018
Automation Solutions	\$ 4,414	4,473
Commercial & Residential Solutions	480	493
Total Backlog	\$ 4,894	4,966

COMPETITION

The Company's businesses operate in highly competitive markets. The Company competes based on product performance, quality, branding, service and/or price across the industries and markets served. A significant element of the Company's competitive strategy is to deliver solutions to our customers by manufacturing high-quality products at the best relevant global cost. Although no single company competes directly with Emerson in all of the Company's product lines, various companies compete in one or more product lines with the number of competitors varying by product line. Some competitors have substantially greater sales, assets and financial resources than Emerson and the Company also competes with many smaller companies. Management believes Emerson has a market leadership position in many of its product lines.

ENVIRONMENT

The Company's manufacturing locations generate waste, of which treatment, storage, transportation and disposal are subject to U.S. federal, state, foreign and/or local laws and regulations relating to protection of the environment. Compliance with laws regulating the discharge of materials into the environment or otherwise relating to protection of the environment has not had a material effect on the Company's capital expenditures, earnings or competitive position. The Company does not anticipate having material capital expenditures for environmental control facilities during the next fiscal year.

EMPLOYEES

The Company and its subsidiaries had approximately 87,500 employees at September 30, 2018. Management believes that the Company's employee relations are favorable. Some of the Company's employees are represented under collective bargaining agreements, but none of these agreements are considered significant.

INTERNET ACCESS

Emerson's reports on Forms 10-K, 10-Q, 8-K and all amendments to those reports are available without charge through the Company's website on the internet as soon as reasonably practicable after they are electronically filed with, or furnished to, the U.S. Securities and Exchange Commission (SEC). They may be accessed as follows: www.Emerson.com, Investors, SEC Filings. Information on the Company's website does not constitute part of this Form 10-K.

The information set forth under Item 1A - "Risk Factors" is hereby incorporated by reference.

ITEM 1A - RISK FACTORS

Investing in our securities involves risks. We may amend or supplement the risk factors described below from time to time by other reports we file with the SEC.

We Operate in Businesses That Are Subject to Competitive Pressures That Could Affect Prices or Demand for Our Products

Our businesses operate in markets that are highly competitive and potentially volatile, and we compete on the basis of product performance, quality, service and/or price across the industries and markets served. Our businesses are largely dependent on the current and future business environment, including capital and consumer spending. A significant element of our competitive strategy is to deliver solutions to our customers by manufacturing high-quality products at the best relevant global cost. Various companies compete with us in one or more product lines and the number of competitors varies by product line. Some of our competitors have substantially greater sales, assets and financial resources than our Company and we also compete with many smaller companies. Competitive pressures could adversely affect prices or customer demand for our products, impacting our sales or profit margins, and/or resulting in a loss of market share.

Our Operating Results Depend in Part on Continued Successful Research, Development and Marketing of New and/or Improved Products and Services, and There Can Be No Assurance That We Will Continue to Successfully Introduce New Products and Services

The success of new and improved products and services depends on their initial and continued acceptance by our customers. Our businesses are affected by varying degrees of technological change and corresponding shifts in customer demand, which result in unpredictable product transitions, shortened life cycles and increased importance of being first to market with new products and services. We may experience difficulties or delays in the research, development, production and/or marketing of new products and services which may negatively impact our operating results and prevent us from recouping or realizing a return on the investments required to continue to bring new products and services to market.

If We Are Unable to Defend or Protect Our Intellectual Property Rights the Company's Competitive Position Could Be Adversely Affected

The Company's intellectual property rights are important to its business and include numerous patents, trademarks, copyrights, trade secrets and other confidential information. This intellectual property may be subject to challenge, infringement, invalidation or circumvention by third parties. Despite extensive security measures, our intellectual property may be subject to misappropriation through unauthorized access of our information technology systems, employee theft, or other acts of industrial espionage. Should the Company be unable to adequately defend or protect its intellectual property, it may suffer competitive harm.

We Engage in Acquisitions and Divestitures, Which Are Subject to Domestic and Foreign Regulatory Requirements, and May Encounter Difficulties in Integrating and Separating These Businesses and Therefore We May Not Realize the Anticipated Benefits

We regularly seek growth through strategic acquisitions as well as evaluate our portfolio for potential divestitures. These activities require favorable environments to execute these transactions, and we may encounter difficulties in obtaining the necessary regulatory approvals in both domestic and foreign jurisdictions. In 2018 and in past years, we have made various acquisitions, including the valves & controls business in 2017, and entered into joint venture arrangements intended to complement or expand our business, and may continue to do so in the future. The

success of these transactions will depend on our ability to integrate assets and personnel acquired in these transactions and to cooperate with our strategic partners. We may encounter difficulties in integrating acquisitions with our operations as well as separating divested businesses, and in managing strategic investments. Furthermore, we may not realize the degree, or timing, of benefits we anticipate when we first enter into a transaction. Any of the foregoing could adversely affect our business and results of operations.

We Use a Variety of Raw Materials and Components in Our Businesses, and Significant Shortages or Price Increases Could Increase Our Operating Costs and Adversely Impact the Competitive Positions of Our Products

Our major requirements for raw materials include steel, copper, cast iron, electronics, rare earth metals, aluminum, brass and, to a lesser extent, plastics and petroleum-based chemicals. The Company seeks multiple sources of supply for each of its major requirements in order to avoid significant dependence on any one or a few suppliers. However, the supply of materials or other items could be disrupted by natural disasters or other events. Significant shortages or price increases could impact the prices our affected businesses charge, their operating costs and the competitive position of their products and services, which could adversely affect our results of operations. While we monitor market prices of the commodities we require and attempt to mitigate price exposure through hedging activities, this risk could adversely affect our operating results.

Our Operations Depend on Production Facilities Throughout the World, a Majority of Which Are Located Outside the United States and Subject to Increased Risks of Disrupted Production Causing Delays in Shipments and Loss of Customers and Revenue

We manage businesses with manufacturing facilities worldwide, a majority of which are located outside the United States, and also source certain materials internationally. Emerging market sales represent over one-third of total sales and serving a global customer base requires that we place more materials sourcing and production in emerging markets to capitalize on market opportunities and maintain our best-cost position. Our and our suppliers' international production facilities and operations could be disrupted by a natural disaster, labor strife, war, political unrest, terrorist activity or public health concerns, particularly in emerging countries that are not well-equipped to handle such occurrences.

Our manufacturing facilities abroad are dependent on the stability of governments and business conditions and may be more susceptible to changes in laws, policies and regulations in host countries, as well as economic and political upheaval, than our domestic facilities. These facilities face increased risks of nationalization as well as operational disruptions which could cause delays in shipments of products and the loss of sales and customers, and insurance proceeds may not adequately compensate us.

Our Substantial Sales Both in the U.S. and Abroad Subject Us to Economic Risk as Our Results of Operations May Be Adversely Affected by Changes in Government Regulations and Policies and Currency Fluctuations

We sell, manufacture, engineer and purchase products globally, with significant sales in both mature and emerging markets. We expect sales in non-U.S. markets to continue to represent a significant portion of our total sales. Our U.S. and international operations subject the Company to changes in government regulations and policies in a large number of jurisdictions around the world, including those related to trade, investments, taxation, exchange controls and repatriation of earnings. Changes in laws or policies governing the terms of foreign trade, trade restrictions or barriers, tariffs or taxes, including on imports from countries where we manufacture products, could adversely impact our business and financial results. In addition, changes in the relative values of currencies occur from time to time and have affected our operating results and could do so in the future. While we monitor our exchange rate exposures and attempt to mitigate this exposure through hedging activities, this risk could adversely affect our operating results.

Recessions, Adverse Market Conditions or Downturns in End Markets We Serve May Negatively Affect Our Operations

In the past, our operations have been exposed to significant volatility due to changes in general economic conditions, recessions or adverse conditions in the end markets we serve. In the future, similar changes could adversely impact overall sales, operating results and cash flows. Moreover, during economic downturns we may undertake more extensive restructuring actions and incur higher costs. If our restructuring actions are not sufficiently effective, we may not be able to achieve our anticipated operating results. In addition, these factors could lead to impairment charges for goodwill or other long-lived assets.

Changes in Tax Rates, Laws or Regulations and the Resolution of Tax Disputes Could Adversely Impact Our Financial Results

As a global company, we are subject to taxation in the U.S. and numerous non-U.S. jurisdictions. Significant judgment is required to determine our consolidated income tax provision and related liabilities. The Company's effective tax rate, cash flows and operating results could be affected by changes in the mix of earnings in countries with different statutory tax rates, as well as by changes in the local tax laws and regulations, or the interpretations thereof. For example, on December 22, 2017, the U.S. government enacted tax reform, the Tax Cuts and Jobs Act (the "Act"), which made comprehensive changes to U.S. federal income tax laws by moving from a global to a modified territorial tax regime. The changes made by the Act are broad and complex. As such, the final one-time deemed repatriation tax may differ materially from the Company's provisional amounts due to additional regulatory guidance expected to be issued, changes in interpretations, or any legislative actions to address questions arising from the Act, as well as further evaluation of the Company's actions, assumptions and interpretations. In addition, the Company's tax returns are subject to regular review and audit by U.S. and non-U.S. tax authorities. While we believe our tax provisions are appropriate, the final outcome of tax audits or disputes could result in adjustments to the Company's tax liabilities, which could adversely affect our financial results.

Access to Funding Through the Capital Markets is Essential to the Execution of Our Business Plan and if We Are Unable to Maintain Such Access We Could Experience a Material Adverse Effect on Our Business and Financial Results

Our ability to invest in our businesses, make strategic acquisitions and refinance maturing debt obligations requires access to the capital markets and sufficient bank credit lines to support short-term borrowings. Volatility in the capital markets may increase costs associated with issuing commercial paper or other debt instruments, or affect the Company's ability to access those markets. If we are unable to continue to access the capital markets, we could experience a material adverse effect on our business and financial results. Additionally, if our customers, suppliers or financial institutions are unable to access the capital markets to meet their commitments to the Company, our business could be adversely impacted.

Our Business Success Depends on the Ability to Attract, Develop and Retain Key Personnel

Our success depends in part on the efforts and abilities of our management and key employees. Their skills, experience and industry knowledge significantly benefit our operations and performance. The failure to attract, develop and retain highly qualified personnel could adversely affect our business and operating results.

Security Breaches or Disruptions of Our Information Technology Systems Could Adversely Affect Our Business

The Company relies on information technology networks and systems, including the internet, to process, transmit and store electronic information, and to manage or support a variety of business processes and activities. Additionally, the Company collects and stores certain data, including proprietary business information, and may have access to confidential or personal information in certain of our businesses that is subject to privacy and security laws and regulations, which are potentially conflicting, and customer-imposed controls. These technology networks and systems may be susceptible to damage, disruptions or shutdowns due to failures during the process of upgrading or replacing software, databases or components; power outages; telecommunications or system failures; terrorist attacks; natural disasters; employee error or malfeasance; server or cloud provider breaches; and computer viruses or cyberattacks. Cybersecurity threats and incidents can range from uncoordinated individual attempts to gain unauthorized access to information technology networks and systems to more sophisticated and targeted measures, known as advanced persistent threats, directed at the Company, its products, its customers and/or its third-party service providers. Despite the implementation of cybersecurity measures (including access controls, data encryption, vulnerability assessments, continuous monitoring, and maintenance of backup and protective systems), the Company's information technology systems may still be vulnerable to cybersecurity threats and other electronic security breaches. It is possible for such vulnerabilities to remain undetected for an extended period, up to and including several years. In addition, it is possible a security breach could result in theft of trade secrets or other intellectual property or disclosure of confidential customer, supplier or employee information. There may be other challenges and risks as the Company upgrades its enterprise resource planning software and related systems across a majority of its businesses. Should the Company be unable to prevent security breaches or other damage to our information technology systems, disruptions could have an adverse effect on our operations, as well as expose the Company to litigation, liability or penalties under privacy laws, increased cybersecurity protection costs, reputational damage and product failure.

Our Products and Services are Highly Sophisticated and Specialized, and a Major Product Failure or Similar Event Caused by Defects, Cybersecurity Incidents or Other Failures, Could Adversely Affect Our Business, Reputation, Financial Position and Results of Operations

We produce highly sophisticated products and provide specialized services that incorporate or use complex or leading-edge technology, including both hardware and software. Many of our products and services, including measurement and analytical instrumentation, industrial valves and equipment, and process control systems, are integrated and used in complex process, hybrid and discrete manufacturing environments. As a result, the impact of a catastrophic product failure or similar event could be significant. While we have built operational processes to ensure that our product design, manufacture, performance and servicing meet rigorous quality standards, there can be no assurance that we or our customers or other third parties will not experience operational process or product failures and other problems, including through manufacturing or design defects, process or other failures of contractors or third-party suppliers, cybersecurity incidents or other intentional acts, that could result in potential product, safety, regulatory or environmental risks. Cybersecurity incidents aimed at the software embedded in our products could lead to third-party claims resulting from damages caused by our product failures, and this risk is enhanced by the increasingly connected nature of our products. The potential consequences of a material cybersecurity incident include financial loss, reputational damage, litigation with third parties, diminution in the value of our investment in research, development and engineering, and increased cybersecurity protection and remediation costs due to the increasing sophistication and proliferation of threats, which in turn could adversely affect our competitiveness and results of operations.

We Are Subject to Litigation and Environmental Regulations That Could Adversely Impact Our Operating Results

We are, and may in the future be, a party to a number of legal proceedings and claims, including those involving intellectual property, product liability (including asbestos) and environmental matters, several of which claim, or may in the future claim, significant damages. Given the inherent uncertainty of litigation, we can offer no assurance that existing litigation or a future adverse development will not have a material adverse impact. We also are subject to various laws and regulations relating to environmental protection and the discharge of materials into the environment, and we could incur substantial costs as a result of the noncompliance with or liability for cleanup or other costs or damages under environmental laws.

ITEM 1B - UNRESOLVED STAFF COMMENTS

None.

ITEM 2 - PROPERTIES

At September 30, 2018, the Company had approximately 215 manufacturing locations worldwide, of which approximately 75 were located in the United States and 140 were located outside the United States, primarily in Europe and Asia, and to a lesser extent in Canada and Latin America. Manufacturing locations by business are: Automation Solutions, 150, and Commercial & Residential Solutions, 65, including 45 in the Climate Technologies segment and 20 in the Tools & Home Products segment. The majority of the locations are owned, with the remainder occupied under lease. The Company considers its facilities suitable and adequate for the purposes for which they are used.

ITEM 3 - LEGAL PROCEEDINGS

The Company and its subsidiaries are party to various legal proceedings, some of which claim substantial amounts of damages. It is not possible to predict the outcome of these matters, but historically the Company has been largely successful in both prosecuting and defending claims and lawsuits.

The Company believes a material adverse impact of any pending litigation is unlikely. Nevertheless, given the uncertainties of litigation, a remote possibility exists that litigation could have a material adverse impact on the Company.

Information regarding legal proceedings is set forth in Note 13.

ITEM 4 - MINE SAFETY DISCLOSURES

Not applicable.

EXECUTIVE OFFICERS OF THE REGISTRANT

The following sets forth certain information as of November 19, 2018 with respect to the Company's executive officers. The Fiscal Year column indicates the first year the executive served as an officer of the Company. These officers have been elected or appointed to terms which expire February 5, 2019:

<u>Name</u>	<u>Position</u>	<u>Age</u>	<u>Fiscal Year</u>
D. N. Farr	Chairman of the Board and Chief Executive Officer*	63	1985
F. J. Dellaquila	Senior Executive Vice President and Chief Financial Officer	61	1991
S. J. Pelch	Chief Operating Officer and Executive Vice President - Organization Planning and Development	54	2005
M. H. Train	President and Chairman Automation Solutions	56	1994
L. Karsanbhai	Executive President - Automation Solutions	49	2002
R. T. Sharp	Executive President - Commercial & Residential Solutions	51	1999
S. Y. Bosco	Senior Vice President, Secretary and General Counsel	60	2005
M. J. Bulanda	Senior Vice President - Planning and Development	52	2002
K. Button Bell	Senior Vice President and Chief Marketing Officer	60	1999
M. J. Baughman	Vice President, Controller and Chief Accounting Officer	53	2018

*Also chairman of the Executive Committee of the Board of Directors.

There are no family relationships among any of the executive officers and directors.

David N. Farr has been Chief Executive Officer since October 2000, was appointed Chairman of the Board in September 2004, and also served as President from November 2005 to October 2010.

Frank J. Dellaquila was appointed Senior Executive Vice President in November 2016, Executive Vice President in November 2012 and Senior Vice President and Chief Financial Officer in February 2010.

Steven J. Pelch was appointed Chief Operating Officer in January 2018, Executive Vice President in November 2016, Senior Vice President in November 2015 and Vice President - Organization Planning and Development in November 2014. Prior to that, Mr. Pelch was Vice President - Organization Planning from October 2012 to November 2014 and Vice President - Planning from October 2005 to October 2012.

Michael H. Train was appointed President in October 2018. Prior to that, Mr. Train was Executive President - Automation Solutions from October 2016 through October 2018, Executive Vice President - Automation Solutions from May 2016 through October 2016 and President of Global Sales for Emerson Process Management from 2010 through May 2016.

Lal Karsanbhai was appointed Executive President - Automation Solutions in October 2018. Prior to his current position, Mr. Karsanbhai was Group President - Measurement & Analytical from 2016 through September 2018, President Emerson Network Power Europe, Middle East and Africa from 2014 through 2016, Vice President Corporate Planning from 2012 through 2014, President of Emerson's Fisher Regulator Technologies business from 2008 through 2012, and Vice President and General Manager of its Natural Gas Unit from 2005 through 2008.

Robert T. Sharp was appointed Executive President - Commercial & Residential Solutions in October 2016. Prior to his current position, Mr. Sharp was Executive Vice President - Commercial & Residential Solutions from February

2016 through October 2016, Executive Vice President - Climate Technologies from February 2015 through February 2016, Vice President - Profit Planning from 2013 through January 2015 and President - Emerson Process Management Europe from 2009 through 2013.

Sara Y. Bosco was appointed to the position of Senior Vice President, Secretary and General Counsel in May 2016. Prior to her current position, Ms. Bosco was President, Emerson Asia-Pacific from 2008 through May 2016.

Mark J. Bulanda was appointed Senior Vice President in November 2016 and Vice President - Acquisition Planning and Development in May 2016. Prior to his current position, Mr. Bulanda was Executive Vice President - Emerson Industrial Automation from 2012 through May 2016 and President of Control Techniques from 2010 through 2012.

Katherine Button Bell was appointed Senior Vice President in November 2016 and Vice President and Chief Marketing Officer in 1999.

Michael J. Baughman was appointed Chief Accounting Officer in February 2018, and Vice President and Controller in October 2017. Prior to that Mr. Baughman was Vice President, Finance, Global Operations, Quality, and Research and Development of Baxter International Inc., a global healthcare products company, from 2015 through September 2017, Vice President, Finance, Medical Products of Baxter from 2013 to 2015 and Corporate Controller of Baxter from 2005 to 2013.

PART II

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

Information regarding the market for the Company's common stock and dividend payments is set forth in Note 20. There were approximately 18,343 stockholders of record at September 30, 2018 .

In November 2015, the Board of Directors authorized the purchase of up to 70 million shares, and 41.8 million shares remain available. No shares were purchased in the fourth quarter of 2018.

ITEM 6 - SELECTED FINANCIAL DATA

Years ended September 30
(dollars in millions, except per share amounts)

	2014	2015 (a)	2016	2017	2018 (b)
Net sales	\$ 17,733	16,249	14,522	15,264	17,408
Earnings from continuing operations – common stockholders	\$ 2,201	2,517	1,590	1,643	2,203
Basic earnings per common share from continuing operations	\$ 3.13	3.72	2.46	2.54	3.48
Diluted earnings per common share from continuing operations	\$ 3.11	3.71	2.45	2.54	3.46
Cash dividends per common share	\$ 1.72	1.88	1.90	1.92	1.94
Long-term debt	\$ 3,559	4,289	4,051	3,794	3,137
Total assets	\$ 24,177	22,088	21,732	19,589	20,390

(a) Includes gains from divestitures of businesses of \$611 million and \$0.90 per share.

(b) Includes income tax benefit of \$189 million (\$0.30 per share) from the impacts of U.S. tax reform.

See Notes 3 and 4 for information regarding the Company's acquisition and divestiture activities for the last three years, and Note 14 for information regarding the impacts of U.S. tax reform.

ITEM 7 - MANAGEMENT'S DISCUSSION AND ANALYSIS OF FINANCIAL CONDITION AND RESULTS OF OPERATIONS

Safe Harbor Statement

This Annual Report on Form 10-K contains various forward-looking statements and includes assumptions concerning Emerson's operations, future results and prospects. These forward-looking statements are based on current expectations and are subject to risks and uncertainties. Emerson undertakes no obligation to update any such statements to reflect later developments. In connection with the "safe harbor" provisions of the Private Securities Litigation Reform Act of 1995, Emerson provides the cautionary statements set forth under Item 1A - "Risk Factors," which are hereby incorporated by reference and identify important economic, political and technological factors, among others, changes in which could cause the actual results or events to differ materially from those set forth in or implied by the forward-looking statements and related assumptions.

Non-GAAP Financial Measures

To supplement the Company's financial information presented in accordance with U.S. generally accepted accounting principles (U.S. GAAP), management periodically uses certain "non-GAAP financial measures," as such term is defined in Regulation G under SEC rules, to clarify and enhance understanding of past performance and prospects for the future. Generally, a non-GAAP financial measure is a numerical measure of a company's operating performance, financial position or cash flows that excludes or includes amounts that are included in or excluded from the most directly comparable measure calculated and presented in accordance with U.S. GAAP. For example, non-GAAP measures may exclude the impact of certain items such as our strategic repositioning actions, other acquisitions or divestitures, U.S. tax reform, changes in reporting segments, gains, losses and impairments, or items outside of management's control, such as foreign currency exchange rate fluctuations. Management believes that the following non-GAAP financial measures provide investors and analysts useful insight into the Company's financial position and operating performance. Any non-GAAP measure provided should be viewed in addition to, and not as an alternative to, the most directly comparable measure determined in accordance with U.S. GAAP, as identified in italics below. Further, the calculation of these non-GAAP financial measures may differ from the calculation of similarly titled financial measures presented by other companies and therefore may not be comparable among companies.

Underlying sales, which exclude the impact of acquisitions, divestitures and fluctuations in foreign currency exchange rates during the periods presented, are provided to facilitate relevant period-to-period comparisons of sales growth by excluding those items that impact overall comparability (U.S. GAAP measure: *net sales*).

Operating profit (defined as net sales less cost of sales and selling, general and administrative expenses) and operating profit margin (defined as operating profit divided by net sales) are indicative of short-term operational performance and ongoing profitability. Management closely monitors operating profit and operating profit margin of each business to evaluate past performance and actions required to improve profitability. EBIT (defined as earnings before deductions for interest expense, net and income taxes) and total segment EBIT, and EBIT margin (defined as EBIT divided by net sales) and total segment EBIT margin, are commonly used financial measures that exclude the impact of financing on the capital structure and income taxes. All these measures are utilized by management to evaluate performance (U.S. GAAP measures: *pretax earnings or pretax profit margin*).

Earnings, earnings per share, return on common stockholders' equity and return on total capital excluding certain gains and losses, impairments, costs, impacts of the strategic portfolio repositioning actions and other acquisitions or divestitures, impacts of U.S. tax reform, or other items provide additional insight into the underlying, ongoing operating performance of the Company and facilitate period-to-period comparisons by excluding the earnings impact of these items. Management believes that presenting earnings, earnings per share, return on common stockholders' equity and return on total capital excluding these items is more representative of the Company's operational performance and may be more useful for investors (U.S. GAAP measures: *earnings, earnings per share, return on common stockholders' equity, return on total capital*).

Free cash flow (operating cash flow less capital expenditures) and free cash flow as a percent of net sales are indicators of the Company's cash generating capabilities, and dividends as a percent of free cash flow is an indicator of the Company's ability to support its dividend, after considering investments in capital assets which are necessary to maintain and enhance existing operations. The determination of operating cash flow adds back noncash depreciation expense to earnings and thereby does not reflect a charge for necessary capital expenditures. Management believes that free cash flow, free cash flow as a percent of net sales and dividends as a percent of free cash flow are useful to both management and investors as measures of the Company's ability to generate cash and support its dividend (U.S. GAAP measure: *operating cash flow, operating cash flow as a percent of net sales, dividends as a percent of operating cash flow*).

FINANCIAL REVIEW

Report of Management

The Company's management is responsible for the integrity and accuracy of the financial statements. Management believes that the financial statements for the three years ended September 30, 2018 have been prepared in conformity with U.S. generally accepted accounting principles appropriate in the circumstances. In preparing the financial statements, management makes informed judgments and estimates where necessary to reflect the expected effects of events and transactions that have not been completed. The Company's disclosure controls and procedures ensure that material information required to be disclosed is recorded, processed, summarized and communicated to management and reported within the required time periods.

In meeting its responsibility for the reliability of the financial statements, management relies on a system of internal accounting control. This system is designed to provide reasonable assurance that assets are safeguarded and transactions are executed in accordance with management's authorization and recorded properly to permit the preparation of financial statements in accordance with U.S. generally accepted accounting principles. The design of this system recognizes that errors or irregularities may occur and that estimates and judgments are required to assess the relative cost and expected benefits of the controls. Management believes that the Company's internal accounting controls provide reasonable assurance that errors or irregularities that could be material to the financial statements are prevented or would be detected within a timely period.

The Audit Committee of the Board of Directors, which is composed solely of independent directors, is responsible for overseeing the Company's financial reporting process. The Audit Committee meets with management and the Company's internal auditors periodically to review the work of each and to monitor the discharge by each of its responsibilities. The Audit Committee also meets periodically with the independent auditors, who have free access to the Audit Committee and the Board of Directors, to discuss the quality and acceptability of the Company's financial reporting and internal controls, as well as nonaudit-related services.

The independent auditors are engaged to express an opinion on the Company's consolidated financial statements and on the Company's internal control over financial reporting. Their opinions are based on procedures that they believe to be sufficient to provide reasonable assurance that the financial statements contain no material errors and that the Company's internal controls are effective.

Management's Report on Internal Control Over Financial Reporting

The Company's management is responsible for establishing and maintaining adequate internal control over financial reporting for the Company. With the participation of the Chief Executive Officer and the Chief Financial Officer, management conducted an evaluation of the effectiveness of internal control over financial reporting based on the framework and the criteria established in *Internal Control - Integrated Framework* (2013), issued by the Committee of Sponsoring Organizations of the Treadway Commission. Based on this evaluation, management has concluded that internal control over financial reporting was effective as of September 30, 2018 .

The tools and test equipment business and Aventics were acquired in the fourth quarter of fiscal 2018. Management has excluded these businesses from its assessment of internal control over financial reporting as of September 30, 2018. Total assets and revenues of these businesses excluded from the assessment represented approximately 9 percent and 1 percent, respectively, of the Company's related consolidated financial statement amounts as of and for the year ended September 30, 2018.

The Company's auditor, KPMG LLP, an independent registered public accounting firm, has issued an audit report on the effectiveness of the Company's internal control over financial reporting.

/s/ David N. Farr
David N. Farr
*Chairman of the Board
and Chief Executive Officer*

/s/ Frank J. Dellaquila
Frank J. Dellaquila
*Senior Executive Vice President
and Chief Financial Officer*

Results of Operations

Years ended September 30

(Dollars in millions, except per share amounts)

	2016	2017	2018	17 vs. 16	18 vs. 17
Net sales	\$ 14,522	15,264	17,408	5 %	14%
Gross profit	\$ 6,262	6,404	7,460	2 %	16%
<i>Percent of sales</i>	43.1%	42.0%	42.9%		
SG&A	\$ 3,464	3,618	4,258		
<i>Percent of sales</i>	23.8%	23.7%	24.5%		
Other deductions, net	\$ 294	286	376		
Interest expense, net	\$ 188	165	159		
Earnings from continuing operations before income taxes	\$ 2,316	2,335	2,667	1 %	14%
<i>Percent of sales</i>	16.0%	15.3%	15.3%		
Earnings from continuing operations common stockholders	\$ 1,590	1,643	2,203	3 %	34%
Net earnings common stockholders	\$ 1,635	1,518	2,203	(7)%	45%
<i>Percent of sales</i>	11.3%	9.9%	12.7%		
Diluted EPS – Earnings from continuing operations	\$ 2.45	2.54	3.46	4 %	36%
Diluted EPS – Net earnings	\$ 2.52	2.35	3.46	(7)%	47%
Return on common stockholders' equity	20.9%	18.6%	24.9%		
Return on total capital	15.5%	15.3%	20.6%		

OVERVIEW

Sales from continuing operations for 2018 were \$17.4 billion , an increase of \$2.1 billion , or 14 percent . The Company funded \$2.2 billion in acquisitions, which added 7 percent , while the divestiture of the residential storage business subtracted 2 percent and foreign currency translation added 1 percent . Underlying sales were up 8 percent compared with the prior year.

Sales increased in both businesses. Automation Solutions sales were up 21 percent , reflecting broad-based demand across energy-related and general industrial markets, and the impact of acquisitions. Commercial & Residential Solutions sales increased 2 percent as favorable demand in global HVAC and refrigeration markets and the impact of acquisitions were partially offset by the divestiture of the residential storage business.

Earnings from continuing operations common stockholders were \$2.2 billion in 2018 , up 34 percent compared with prior year earnings of \$1.6 billion . Diluted earnings per share from continuing operations were \$3.46 , up 36 percent versus \$2.54 per share in 2017 , due to strong sales growth and operational performance, as well as an income tax benefit of \$189 million (\$0.30 per share) from the impacts of U.S. tax reform and an \$0.18 per share benefit from the lower tax rate on 2018 earnings.

Net earnings common stockholders were \$2.2 billion in 2018 , up 45 percent compared with prior year earnings of \$1.5 billion , which included the impact of discontinued operations. Diluted earnings per share were \$3.46 , up 47 percent versus \$2.35 per share in 2017 .

The Company generated operating cash flow from continuing operations of \$2.9 billion in 2018 , an increase of \$202 million , or 8 percent .

NET SALES

Net sales for 2018 were \$17.4 billion , an increase of \$2.1 billion , or 14 percent compared with 2017 . Sales increased \$2.0 billion in Automation Solutions and \$125 million in Commercial & Residential Solutions. Underlying sales, which exclude foreign currency translation, acquisitions and divestitures, increased 8 percent (\$1.1 billion) on higher volume. Acquisitions, net of the divestiture of the residential storage business, added 5 percent (\$819 million) and foreign currency translation added 1 percent (\$181 million). Underlying sales increased 9 percent in the U.S. and 7 percent internationally.

Net sales for 2017 were \$15.3 billion , an increase of \$742 million , or 5 percent compared with 2016 . Sales increased \$441 million in Automation Solutions and \$302 million in Commercial & Residential Solutions. Underlying sales increased 1 percent (\$168 million) on higher volume and slightly lower price. Acquisitions added 4 percent (\$628 million) while foreign currency translation subtracted \$54 million . Underlying sales increased 2 percent in the U.S. and were flat internationally.

INTERNATIONAL SALES

Emerson is a global business with international sales representing 54 percent of total sales, including U.S. exports. The Company generally expects faster economic growth in emerging markets in Asia, Latin America, Eastern Europe and Middle East/Africa.

International destination sales, including U.S. exports, increased 18 percent , to \$9.5 billion in 2018 , reflecting increases in both the Automation Solutions and Commercial & Residential Solutions businesses. U.S. exports of \$1.1 billion were up 19 percent compared with 2017 , reflecting increases in both Automation Solutions and Commercial & Residential Solutions which benefited from acquisitions. Underlying international destination sales were up 7 percent, as foreign currency translation had a 2 percent favorable impact, while acquisitions, net of the divestiture of the residential storage business, had a 9 percent favorable impact on the comparison. Underlying sales increased 2 percent in Europe and 10 percent in Asia (China up 17 percent). Underlying sales increased 4 percent in Latin America, 12 percent in Canada and 6 percent in Middle East/Africa. Origin sales by international subsidiaries, including shipments to the U.S., totaled \$8.5 billion in 2018 , up 19 percent compared with 2017 , primarily reflecting acquisitions.

International destination sales, including U.S. exports, increased 5 percent, to \$8.0 billion in 2017 , reflecting increases in both the Automation Solutions and Commercial & Residential Solutions businesses. U.S. exports of \$927 million were up 4 percent compared with 2016 , reflecting increases in both Automation Solutions, which benefited from the valves & controls acquisition, and Commercial & Residential Solutions. Underlying international destination sales were flat, as foreign currency translation had a 1 percent unfavorable impact, while acquisitions had a 6 percent favorable impact on the comparison. Underlying sales were down 1 percent in Europe and up 6 percent in Asia (China up 15 percent). Underlying sales decreased 12 percent in Latin America, 3 percent in Canada and 6 percent in Middle East/Africa. Origin sales by international subsidiaries, including shipments to the U.S., totaled \$7.2 billion in 2017 , up 6 percent compared with 2016 , primarily reflecting the valves & controls acquisition.

ACQUISITIONS AND DIVESTITURES

On July 17, 2018, the Company completed the acquisition of Aventics, a global provider of smart pneumatics technologies that power machine and factory automation applications, for \$622 million, net of cash acquired. This business, which has annual sales of approximately \$425 million, is included in the Industrial Solutions product offering within the Automation Solutions segment.

On July 2, 2018, the Company completed the acquisition of Textron's tools and test equipment business for \$810 million, net of cash acquired. This business, with annual sales of approximately \$470 million, is a manufacturer of electrical and utility tools, diagnostics, and test and measurement instruments, and is reported in the Tools & Home products segment.

On December 1, 2017, the Company acquired Paradigm, a provider of software solutions for the oil and gas industry, for \$505 million, net of cash acquired. This business had annual sales of approximately \$140 million and is included in the Measurement & Analytical Instrumentation product offering within Automation Solutions.

In fiscal 2018, the Company also acquired four smaller businesses, two in the Automation Solutions segment and two in the Climate Technologies segment.

On October 2, 2017, the Company sold its residential storage business for \$200 million in cash, and recognized a small pretax gain and an after-tax loss of \$24 million (\$0.04 per share) in the first quarter of 2018 due to income taxes resulting from nondeductible goodwill. The Company realized approximately \$150 million in after-tax cash proceeds from the sale. Assets and liabilities for this business were classified as held-for-sale in the consolidated balance sheet at September 30, 2017. This business had sales of \$298 million and pretax earnings of \$15 million in 2017, and was previously reported within the Tools & Home Products segment.

On April 28, 2017, the Company completed the acquisition of Pentair's valves & controls business for \$2.96 billion, net of cash acquired of \$207 million, subject to certain post-closing adjustments. This business, with annualized sales of approximately \$1.4 billion, is a manufacturer of control, isolation and pressure relief valves and actuators, and complements the Valves, Actuators & Regulators product offering within Automation Solutions. The Company also acquired two smaller businesses in the Automation Solutions segment. Total cash paid for all businesses in 2017 was \$3.0 billion, net of cash acquired.

The Company acquired six businesses in 2016, four in Automation Solutions and two in Climate Technologies. Total cash paid for these businesses was \$132 million, net of cash acquired. Annualized sales for these businesses were approximately \$51 million in 2016.

See Note 3 for further information on acquisitions and divestitures, including pro forma financial information. See information under "Discontinued Operations" for a discussion of the Company's divestitures related to its portfolio repositioning actions.

COST OF SALES

Cost of sales for 2018 were \$9.9 billion, an increase of \$1.1 billion compared with \$8.9 billion in 2017. The increase is primarily due to acquisitions, higher volume and the impact of foreign currency translation. Gross profit was \$7.5 billion in 2018 compared to \$6.4 billion in 2017. Gross margin increased 0.9 percentage points to 42.9 percent, reflecting leverage on higher volume and savings from cost reduction actions, partially offset by the impact of acquisitions. Gross profit margin was 42.0 percent in 2017.

Cost of sales for 2017 were \$8.9 billion, an increase of \$600 million compared with \$8.3 billion in 2016. The increase reflects the acquisition of the valves & controls business and higher volume, partially offset by cost reduction actions and the impact of foreign currency translation. Gross profit was \$6.4 billion in 2017 compared with \$6.3 billion in 2016. Gross margin of 42.0 percent reflected dilution of 1.2 percentage points due to the valves & controls operations and first year acquisition accounting charges of \$74 million related to inventory. Slightly lower price also contributed to the decline, while savings from cost reduction actions partially offset these decreases. Gross margin was 43.1 percent in 2016.

SELLING, GENERAL AND ADMINISTRATIVE EXPENSES

Selling, general and administrative (SG&A) expenses of \$4.3 billion in 2018 increased \$640 million compared with 2017 due to acquisitions and an increase in volume. SG&A as a percent of sales of 24.5 percent increased 0.8 percentage points due to higher incentive stock compensation of \$106 million, reflecting an increase in the Company's stock price and progress toward achieving its performance objectives, the impact of acquisitions, and higher investment spending in Automation Solutions, partially offset by leverage on higher volume.

SG&A expenses of \$3.6 billion in 2017 increased \$154 million compared with 2016, primarily due to the valves & controls acquisition. Savings from cost reduction actions and lower incentive stock compensation of \$35 million, reflecting the impact of changes in the stock price, were partially offset by higher other costs. SG&A as a percent of sales of 23.7 percent decreased 0.1 percentage points in 2017 compared with 2016.

OTHER DEDUCTIONS, NET

Other deductions, net were \$376 million in 2018, an increase of \$90 million compared with 2017. The increase primarily reflects higher intangibles amortization of \$75 million due to acquisitions and higher acquisition/divestiture costs of \$18 million, partially offset by lower restructuring expense of \$13 million. See Note 5.

Other deductions, net were \$286 million in 2017, a decrease of \$8 million compared with 2016. The decrease primarily reflects favorable foreign currency transactions comparisons of \$78 million (unfavorable in the prior year) and lower restructuring expense of \$18 million. These decreases were substantially offset by intangibles and backlog amortization related to the valves & controls acquisition of \$29 million and \$19 million, respectively, and higher

acquisition/divestiture costs of \$24 million . Additionally, 2016 results included a \$21 million gain from payments received related to dumping duties.

INTEREST EXPENSE, NET

Interest expense, net was \$159 million , \$165 million and \$188 million in 2018 , 2017 and 2016 , respectively. The decreases in 2018 and 2017 reflect the maturity of long-term debt with relatively higher interest rates and higher interest income.

INCOME TAXES

On December 22, 2017, the U.S. government enacted tax reform, the Tax Cuts and Jobs Act (the "Act"), which made comprehensive changes to U.S. federal income tax laws by moving from a global to a modified territorial tax regime. The Act includes a reduction of the U.S. corporate income tax rate from 35 percent to 21 percent in calendar year 2018 along with the elimination of certain deductions and credits, and a one-time "deemed repatriation" of accumulated foreign earnings. During 2018, the Company recognized a net tax benefit of \$189 million (\$0.30 per share) due to impacts of the Act, consisting of a \$94 million benefit on revaluation of net deferred income tax liabilities to the lower tax rate, \$35 million of expense for the tax on deemed repatriation of accumulated foreign earnings and withholding taxes, and the reversal of \$130 million accrued in previous periods for the planned repatriation of non-U.S. cash.

On August 1, 2018, the U.S. Treasury and Internal Revenue Service released proposed regulations relating to the one-time tax on deemed repatriation of accumulated foreign earnings. The proposed regulations were subject to a 60-day comment period and final regulations are expected to be issued after consideration of comments received. The Company is currently evaluating the impact of the proposed regulations and anticipates finalizing its provisional estimates after fully evaluating the final regulations.

The changes made by the Act are broad and complex. As such, the final one-time deemed repatriation tax may differ materially from these provisional amounts due to additional regulatory guidance expected to be issued, changes in interpretations, or any legislative actions to address questions arising from the Act, as well as further evaluation of the Company's actions, assumptions and interpretations.

Income taxes were \$443 million , \$660 million and \$697 million for 2018 , 2017 and 2016 , respectively, resulting in effective tax rates of 17 percent , 28 percent and 30 percent in 2018 , 2017 and 2016 , respectively. The 11 percentage point decrease in 2018 versus the prior year is due to the impacts of the Act, which include the net tax benefit described above and the lower tax rate on 2018 earnings. The 2018 and 2017 rates also include benefits from restructuring of subsidiaries of \$53 million (\$0.08 per share) and \$47 million (\$0.07 per share), respectively.

EARNINGS FROM CONTINUING OPERATIONS

Earnings from continuing operations attributable to common stockholders in 2018 were \$2.2 billion , up 34 percent compared with 2017 , and diluted earnings per share were \$3.46 in 2018 , up 36 percent . Earnings per share included the net tax benefit due to impacts of the Act of \$0.30 per share discussed above. Results also included an \$0.18 per share benefit from the lower tax rate on 2018 earnings, partially offset by a \$0.04 per share loss on the residential storage business. Earnings increased \$364 million in the Automation Solutions segment in 2018 and decreased \$6 million in Commercial & Residential Solutions. See the Business discussion that follows and Note 18.

Earnings from continuing operations attributable to common stockholders in 2017 were \$1.6 billion , up 3 percent compared with 2016 , and diluted earnings per share were \$2.54 , up 4 percent. Valves & controls reduced both comparisons by 6 percentage points, or \$97 million , \$0.15 per share, including restructuring expense, intangibles amortization, and first year pretax acquisition accounting charges related to inventory and backlog of \$93 million (\$65 million after-tax, \$0.10 per share) which are reported in Corporate and other. Earnings increased \$66 million in the Automation Solutions segment in 2017 and \$72 million in Commercial & Residential Solutions.

DISCONTINUED OPERATIONS

On November 30, 2016, the Company completed the sale of its network power systems business for \$4.0 billion in cash and retained a subordinated interest in distributions, contingent upon the equity holders first receiving a threshold return on their initial investment. Additionally, on January 31, 2017, the Company completed the sale of its power generation, motors and drives business for approximately \$1.2 billion. Discontinued operations was a net loss of \$125 million, \$0.19 per share, in 2017 and income of \$45 million, \$0.07 per share, in 2016. Operating cash flow used by discontinued operations was \$778 million for 2017 and capital expenditures were \$ 20 million . In 2016,

operating cash flow from discontinued operations was \$382 million and capital expenditures were \$76 million . The results of operations for these businesses were reported in discontinued operations until disposal. See Note 4.

NET EARNINGS AND EARNINGS PER SHARE; RETURNS ON EQUITY AND TOTAL CAPITAL

Net earnings attributable to common stockholders in 2018 were \$2.2 billion , up 45 percent compared with 2017 , and diluted earnings per share were \$3.46 , up 47 percent . The 2017 results included a net loss from discontinued operations of \$125 million which benefited net earnings and earnings per share comparisons 11 percentage points.

Net earnings attributable to common stockholders in 2017 were \$1.5 billion , down 7 percent compared with 2016 , and diluted earnings per share were \$2.35 , down 7 percent . These results include the impact of discontinued operations discussed above which negatively impacted net earnings and earnings per share comparisons 10 and 11 percentage points, respectively.

Return on common stockholders' equity (net earnings attributable to common stockholders divided by average common stockholders' equity) was 24.9 percent in 2018 compared with 18.6 percent in 2017 and 20.9 percent in 2016 . Return on total capital was 20.6 percent in 2018 compared with 15.3 percent in 2017 and 15.5 percent in 2016 (computed as net earnings attributable to common stockholders excluding after-tax net interest expense, divided by average common stockholders' equity plus short- and long-term debt less cash and short-term investments). The impacts of U.S. tax reform discussed above benefited the 2018 return on common stockholders' equity and return on total capital, while the acquisition of the valves & controls business reduced the 2017 returns. Discontinued operations reduced returns in both 2017 and 2016.

Business Segments

Following is an analysis of segment results for 2018 compared with 2017 , and 2017 compared with 2016 . The Company defines segment earnings as earnings before interest and income taxes. In connection with the strategic portfolio repositioning actions completed in fiscal 2017, the Company began reporting three segments: Automation Solutions, and Climate Technologies and Tools & Home Products which together comprise the Commercial & Residential Solutions business. See Note 18.

AUTOMATION SOLUTIONS

(dollars in millions)

	2016	2017	2018	17 vs. 16	18 vs. 17
Sales	\$ 8,977	9,418	11,441	5%	21%
Earnings	\$ 1,456	1,522	1,886	5%	24%
Margin	16.2%	16.2%	16.5%		
Sales by Major Product Offering					
Measurement & Analytical Instrumentation	\$ 3,137	3,070	3,604	(2)%	17%
Valves, Actuators & Regulators	2,137	2,668	3,769	25 %	41%
Industrial Solutions	1,621	1,680	1,947	4 %	16%
Process Control Systems & Solutions	2,082	2,000	2,121	(4)%	6%
Total	\$ 8,977	9,418	11,441	5 %	21%

2018 vs. 2017 - Automation Solutions reported sales of \$11.4 billion in 2018 , an increase of \$2.0 billion , or 21 percent . Underlying sales increased 10 percent (\$922 million) on higher volume. Acquisitions added 10 percent (\$978 million) and foreign currency translation added 1 percent (\$123 million) . Sales for Measurement & Analytical Instrumentation increased \$534 million , or 17 percent , and Process Control Systems & Solutions increased \$121 million , or 6 percent , due to increased spending by global oil and gas customers, strong MRO demand and growth of small and mid-sized projects focused on facility expansion and optimization. The acquisition of Paradigm (\$113 million) also supported Measurement & Analytical Instrumentation sales. Valves, Actuators & Regulators increased \$1.1 billion , or 41 percent , led by the valves & controls acquisition (\$771 million) and broad-based demand across end markets, including energy, power and life sciences. Industrial Solutions sales increased \$267 million , or 16 percent , driven by favorable global trends in general industrial end markets. Underlying sales increased 14 percent in the U.S., 1 percent in Europe and 11 percent in Asia (China up 21 percent). Latin America increased 4 percent , Canada increased 14 percent and Middle East/Africa was up 9 percent . Earnings of \$1.9 billion increased \$364 million from the prior year on higher volume and leverage, cost reduction savings and lower restructuring expense of \$22 million , partially offset by higher investment spending. Margin increased 0.3 percentage points to 16.5 percent . These results reflect a dilutive impact on comparisons from the valves & controls acquisition of 1.2 percentage points, which included an impact from higher intangibles amortization of 0.4 percentage points, or \$45 million. In 2019, growth in Automation Solutions will continue to be driven by MRO activity, as well as brownfield capital investments in existing assets to expand capacity or to improve the efficiency, safety and uptime of those facilities. Steady progress in greenfield capital projects across upstream, midstream infrastructure, natural gas, chemical and hybrid markets, including life sciences and food and beverage, is also expected with orders weighted toward the second half of 2019.

2017 vs. 2016 - Automation Solutions reported sales of \$9.4 billion in 2017 , an increase of \$441 million or 5 percent . Underlying sales decreased 1 percent (\$128 million) on lower volume and slightly lower price. The valves & controls acquisition added 7 percent (\$603 million) , while foreign currency translation subtracted 1 percent (\$34 million) . Sales for Measurement & Analytical Instrumentation decreased 2 percent and Process Control Systems & Solutions decreased 4 percent due to weakness in energy-related markets, but began to improve in the second half of the year as oil prices stabilized. Valves, Actuators & Regulators increased \$531 million , or 25 percent , due to the valves & controls acquisition. Industrial Solutions sales increased \$59 million , or 4 percent , on improving economic conditions and industrial end markets, especially automotive. Chemical, power and life sciences were favorable. Underlying sales increased 1 percent in the U.S., were down 2 percent in Europe and increased 1 percent in Asia (China up 9 percent). Latin America decreased 20 percent , Canada decreased 6 percent and Middle East/Africa was down 6 percent . Earnings of \$1.5 billion increased \$66 million from the prior year. Savings from cost reduction actions and favorable foreign currency transactions comparisons of \$64 million (unfavorable in the prior year) were partially offset by lower volume, and \$25 million of restructuring expense and \$29 million of intangibles amortization related to the valves & controls acquisition. Materials cost containment offset lower price. Margin was flat, primarily reflecting the benefit from cost reduction actions offset by dilution from the valves & controls acquisition of 1.5 percentage points.

COMMERCIAL & RESIDENTIAL SOLUTIONS

(dollars in millions)

	2016	2017	2018	17 vs. 16	18 vs. 17
Sales:					
Climate Technologies	\$ 3,944	4,212	4,454	7 %	6 %
Tools & Home Products	1,611	1,645	1,528	2 %	(7)%
Total	\$ 5,555	5,857	5,982	5 %	2 %
Earnings:					
Climate Technologies	\$ 902	975	972	8 %	— %
Tools & Home Products	384	383	380	— %	(1)%
Total	\$ 1,286	1,358	1,352	6 %	— %
Margin	23.2%	23.2%	22.6%		

2018 vs. 2017 - Commercial & Residential Solutions sales were \$6.0 billion in 2018 , an increase of \$125 million , or 2 percent . Underlying sales increased 4 percent (\$226 million) on higher volume and slightly higher price. Foreign currency translation added 1 percent (\$58 million) while the divestiture of the residential storage business, net of acquisitions, subtracted 3 percent (\$159 million). Climate Technologies sales were \$4.5 billion in 2018 , an increase of \$242 million , or 6 percent . Global HVAC sales were up moderately, reflecting robust growth in China, while sales were up moderately in Europe and modestly in the U.S. Cold chain sales were strong, led by robust growth in China and solid growth in Europe, while sales in the U.S. were up slightly. Sensors had strong growth, while temperature controls was flat. Tools & Home Products sales were \$1.5 billion in 2018 , down \$117 million or 7 percent compared to the prior year, reflecting the impact of the residential storage divestiture (\$298 million). Sales for professional tools were strong on favorable demand in oil and gas and construction-related markets, and the tools and test acquisition added \$106 million . Wet/dry vacuums had solid growth and food waste disposers were up slightly. Overall, underlying sales increased 3 percent in the U.S., 4 percent in Europe and 9 percent in Asia (China up 11 percent). Sales increased 4 percent in both Latin America and Canada, while sales decreased 8 percent in

Middle East/Africa. Earnings were \$1.4 billion , a decrease of \$6 million and margin was down 0.6 percentage points. Higher materials costs, the impact of acquisitions, unfavorable mix and increased restructuring expense of \$11 million were partially offset by leverage on higher volume, favorable price and savings from cost reduction actions. In addition, the residential storage divestiture reduced earnings by \$16 million, but benefited margin comparisons 1.0 percentage points, while higher warranty costs of \$10 million associated with a specific product issue in Climate Technologies partially offset this benefit. Commercial & Residential Solutions growth in 2019 will be supported by continued strong demand in residential and commercial air conditioning markets in the U.S., as well as cold chain and professional tools demand in the U.S., Asia and Europe.

2017 vs. 2016 - Commercial & Residential Solutions sales were \$5.9 billion in 2017 , an increase of \$302 million , or 5 percent , reflecting favorable conditions in HVAC and refrigeration markets in the U.S., Asia and Europe, as well as U.S. and Asian construction markets. Underlying sales increased 5 percent (\$297 million) on 6 percent higher volume, partially offset by 1 percent lower price. Foreign currency translation deducted \$20 million and acquisitions added \$25 million . Climate Technologies sales were \$4.2 billion in 2017 , an increase of \$268 million , or 7 percent . Global air conditioning sales were solid, led by strength in the U.S. and Asia and robust growth in China partially due to easier comparisons, while sales were up modestly in Europe and declined moderately in Middle East/Africa. Global refrigeration sales were strong, reflecting robust growth in China on increased adoption of energy-efficient solutions and slight growth in the U.S. Sensors and solutions had strong growth, while temperature controls was up modestly. Tools & Home Products sales were \$1.6 billion in 2017 , up \$34 million compared to the prior year. Professional tools had strong growth on favorable demand from oil and gas customers and in other construction-related markets. Wet/dry vacuums sales were up moderately as favorable conditions continued in U.S. construction markets. Food waste disposers increased slightly, while the storage business declined moderately. Overall, underlying sales increased 3 percent in the U.S., 4 percent in Europe and 17 percent in Asia (China up 27 percent). Sales increased 3 percent in Latin America and 4 percent in Canada, while sales decreased 5 percent in Middle East/Africa. Earnings were \$1.4 billion , an increase of \$ 72 million driven by Climate Technologies, while margin was flat. Increased volume and resulting leverage, savings from cost reduction actions, and lower customer accommodation costs of \$16 million were largely offset by higher materials costs, lower price and unfavorable product mix.

Financial Position, Capital Resources and Liquidity

The Company continues to generate substantial cash from operations and has the resources available to reinvest for growth in existing businesses, pursue strategic acquisitions and manage its capital structure on a short- and long-term basis.

CASH FLOW FROM CONTINUING OPERATIONS

(dollars in millions)	2016	2017	2018
Operating Cash Flow	\$ 2,499	2,690	2,892
<i>Percent of sales</i>	17.2%	17.6%	16.6%
Capital Expenditures	\$ 447	476	617
<i>Percent of sales</i>	3.1%	3.1%	3.5%
Free Cash Flow (Operating Cash Flow less Capital Expenditures)	\$ 2,052	2,214	2,275
<i>Percent of sales</i>	14.1%	14.5%	13.1%
Operating Working Capital	\$ 755	1,007	985
<i>Percent of sales</i>	5.2%	6.6%	5.7%

Operating cash flow from continuing operations for 2018 was \$2.9 billion , a \$202 million , or 8 percent increase compared with 2017 , primarily due to higher earnings, partially offset by an increase in working capital investment to support higher levels of sales activity and income taxes paid on the residential storage divestiture. Operating cash flow from continuing operations of \$2.7 billion in 2017 increased 8 percent compared to \$2.5 billion in 2016 , reflecting higher earnings and favorable changes in working capital. At September 30, 2018 , operating working capital as a percent of sales was 5.7 percent compared with 6.6 percent in 2017 and 5.2 percent in 2016 . The increase in 2017 was due to higher levels of working capital in the acquired valves & controls business. Operating cash flow from continuing operations funded capital expenditures of \$617 million , dividends of \$1.2 billion , and common stock purchases of \$1.0 billion . In 2018, the Company repatriated \$1.4 billion of cash held by non-U.S.

subsidiaries, which was part of the Company's previously announced plans. These funds along with increased short-term borrowings and divestiture proceeds supported acquisitions of \$2.2 billion . Contributions to pension plans were \$61 million in 2018 , \$45 million in 2017 and \$66 million in 2016 .

Capital expenditures related to continuing operations were \$617 million , \$476 million and \$447 million in 2018 , 2017 and 2016 , respectively. Free cash flow from continuing operations (operating cash flow less capital expenditures) was \$2.3 billion in 2018 , up 3 percent . Free cash flow was \$2.2 billion in 2017 , compared with \$2.1 billion in 2016 . The Company is targeting capital spending of approximately \$650 million in 2019 . Net cash paid in connection with acquisitions was \$2.2 billion , \$3.0 billion and \$132 million in 2018 , 2017 and 2016 , respectively. Proceeds from divestitures not classified as discontinued operations were \$201 million and \$39 million in 2018 and 2017 , respectively.

Dividends were \$1.2 billion (\$1.94 per share) in 2018 , compared with \$1.2 billion (\$1.92 per share) in 2017 and \$1.2 billion (\$1.90 per share) in 2016 . In November 2018 , the Board of Directors voted to increase the quarterly cash dividend 1 percent, to an annualized rate of \$1.96 per share.

Purchases of Emerson common stock totaled \$1.0 billion , \$400 million and \$601 million in 2018 , 2017 and 2016 , respectively, at average per share prices of \$66.25, \$60.51 and \$48.11.

The Board of Directors authorized the purchase of up to 70 million common shares in November 2015, and 41.8 million shares remain available for purchase under this authorization. The Company purchased 15.1 million shares in 2018 , 6.6 million shares in 2017, and 12.5 million shares in 2016 under this authorization and the remainder of the May 2013 authorization.

LEVERAGE/CAPITALIZATION

(dollars in millions)

	2016	2017	2018
Total Assets	\$ 21,732	19,589	20,390
Long-term Debt	\$ 4,051	3,794	3,137
Common Stockholders' Equity	\$ 7,568	8,718	8,947
Total Debt-to-Total Capital Ratio	46.7%	34.8%	34.7%
Net Debt-to-Net Capital Ratio	31.3%	15.4%	29.1%
Operating Cash Flow-to-Debt Ratio	37.7%	57.8%	60.7%
Interest Coverage Ratio	11.8X	12.6X	14.2X

Total debt, which includes long-term debt, current maturities of long-term debt, commercial paper and other short-term borrowings, was \$4.8 billion , \$4.7 billion and \$6.6 billion for 2018 , 2017 and 2016 , respectively. During the year, the Company repaid \$250 million of 5.375% notes that matured in October 2017. In 2017 and 2016 respectively, the Company repaid \$250 million of 5.125% notes that matured in December 2016 and \$250 million of 4.75% notes which matured in October 2015.

The net debt-to-net capital ratio (less cash and short-term investments) increased in 2018 due to a decrease in cash which was used for acquisitions during the year. In 2017 the total debt-to-capital ratio and the net debt-to-net capital ratio (less cash and short-term investments) decreased due to lower total debt outstanding and higher common stockholders' equity from changes in other comprehensive income. The operating cash flow from continuing operations-to-debt ratio increased in 2018 primarily due to higher cash flow in the current year. The operating cash flow from continuing operations-to-debt ratio increased in 2017 primarily due to lower total debt outstanding. The interest coverage ratio is computed as earnings from continuing operations before income taxes plus interest expense, divided by interest expense. The increase in interest coverage in 2018 reflects higher earnings in the current year. The increase in interest coverage in 2017 reflects lower interest expense.

In May 2018, the Company entered into a \$3.5 billion five-year revolving backup credit facility with various banks, which replaced the April 2014 \$3.5 billion facility. The credit facility is maintained to support general corporate purposes, including commercial paper borrowings. The Company has not incurred any borrowings under this or

previous facilities. The credit facility contains no financial covenants and is not subject to termination based on a change of credit rating or material adverse changes. The facility is unsecured and may be accessed under various interest rate and currency denomination alternatives at the Company's option. Fees to maintain the facility are immaterial. The Company also maintains a universal shelf registration statement on file with the SEC under which it can issue debt securities, preferred stock, common stock, warrants, share purchase contracts or share purchase units without a predetermined limit. Securities can be sold in one or more separate offerings with the size, price and terms to be determined at the time of sale.

Emerson's financial structure provides the flexibility necessary to achieve its strategic objectives. The Company has been successful in efficiently deploying cash where needed worldwide to fund operations, complete acquisitions and sustain long-term growth. At September 30, 2018, approximately \$1.1 billion of the Company's cash was held outside the U.S. (primarily in Europe and Asia). The Company routinely repatriates a portion of its non-U.S. cash from earnings each year, or otherwise when it can be accomplished tax efficiently, and provides for foreign withholding taxes and any applicable U.S. income taxes as appropriate. The Company has been able to readily meet all its funding requirements and currently believes that sufficient funds will be available to meet the Company's needs in the foreseeable future through operating cash flow, existing resources, short- and long-term debt capacity or backup credit lines.

CONTRACTUAL OBLIGATIONS

At September 30, 2018, the Company's contractual obligations, including estimated payments, are as follows:

(dollars in millions)	Amounts Due By Period				
	Total	Less Than 1 Year	1 - 3 Years	3 - 5 Years	More Than 5 Years
Long-term Debt (including Interest)	\$ 5,177	847	1,068	1,170	2,092
Operating Leases	661	204	243	107	107
Purchase Obligations	924	768	132	16	8
Total	\$ 6,762	1,819	1,443	1,293	2,207

Purchase obligations consist primarily of inventory purchases made in the normal course of business to meet operational requirements. The table above does not include \$2.1 billion of other noncurrent liabilities recorded in the balance sheet and summarized in Note 19, which consist primarily of pension and postretirement plan liabilities, deferred income taxes and unrecognized tax benefits, because it is not certain when these amounts will become due. See Notes 11 and 12 for estimated future benefit payments and Note 14 for additional information on deferred income taxes.

FINANCIAL INSTRUMENTS

The Company is exposed to market risk related to changes in interest rates, foreign currency exchange rates and commodity prices, and selectively uses derivative financial instruments, including forwards, swaps and purchased options to manage these risks. The Company does not hold derivatives for trading or speculative purposes. The value of derivatives and other financial instruments is subject to change as a result of market movements in rates and prices. Sensitivity analysis is one technique used to forecast the impact of these movements. Based on a hypothetical 10 percent increase in interest rates, a 10 percent decrease in commodity prices or a 10 percent weakening in the U.S. dollar across all currencies, the potential losses in future earnings, fair value or cash flows are not material. Sensitivity analysis has limitations; for example, a weaker U.S. dollar would benefit future earnings through favorable translation of non-U.S. operating results, and lower commodity prices would benefit future earnings through lower cost of sales. See Notes 1, and 8 through 10.

Critical Accounting Policies

Preparation of the Company's financial statements requires management to make judgments, assumptions and estimates regarding uncertainties that could affect reported revenue, expenses, assets, liabilities and equity. Note 1 describes the significant accounting policies used in preparation of the consolidated financial statements. The most significant areas where management judgments and estimates impact the primary financial statements are described below. Actual results in these areas could differ materially from management's estimates under different assumptions or conditions.

REVENUE RECOGNITION

The Company recognizes a large majority of its revenue through the sale of manufactured products and records the sale when products are shipped or delivered, title and risk of loss pass to the customer, and collection is reasonably assured. In certain circumstances, revenue is recognized using the percentage-of-completion method, as performance occurs, or in accordance with ASC 985-605 related to software. Sales arrangements sometimes involve delivering multiple elements, which requires management judgment that affects the amount and timing of revenue recognized. In these instances, the revenue assigned to each element is based on vendor-specific objective evidence, third-party evidence or a management estimate of the relative selling price. Revenue is recognized for delivered elements if they have value to the customer on a stand-alone basis and performance related to the undelivered items is probable and substantially in the Company's control, or the undelivered elements are inconsequential or perfunctory and there are no unsatisfied contingencies related to payment. The vast majority of deliverables are tangible products, with a smaller portion attributable to installation, service or maintenance. Management believes that all relevant criteria and conditions are considered when recognizing revenue.

LONG-LIVED ASSETS

Long-lived assets, which include property, plant and equipment, goodwill and identifiable intangible assets, are reviewed for impairment whenever events or changes in business circumstances indicate impairment may exist. If the Company determines that the carrying value of a long-lived asset may not be recoverable, a permanent impairment charge is recorded for the amount by which the carrying value of the long-lived asset exceeds its estimated fair value. Reporting units are also reviewed for possible goodwill impairment at least annually, in the fourth quarter. If an initial assessment indicates it is more likely than not an impairment may exist, it is evaluated by comparing the unit's estimated fair value to its carrying value. Fair value is generally estimated using an income approach that discounts estimated future cash flows using discount rates judged by management to be commensurate with the applicable risk. Estimates of future sales, operating results, cash flows and discount rates are subject to changes in the economic environment, including such factors as the general level of market interest rates, expected equity market returns and the volatility of markets served, particularly when recessionary economic circumstances continue for an extended period of time. Management believes the estimates of future cash flows and fair values are reasonable; however, changes in estimates due to variance from assumptions could materially affect the evaluations.

RETIREMENT PLANS

The Company maintains a prudent long-term investment strategy consistent with the duration of pension obligations. The determination of defined benefit plan expense and liabilities is dependent on various assumptions, including the expected annual rate of return on plan assets, the discount rate and the rate of annual compensation increases. Management believes the assumptions used are appropriate; however, actual experience may differ. In accordance with U.S. generally accepted accounting principles, actual results that differ from the Company's assumptions are accumulated as deferred actuarial gains or losses and amortized to expense in future periods. The Company transitioned from defined benefit to defined contribution retirement plans in 2016. The principal U.S. defined benefit plan is closed to employees hired after January 1, 2016 while shorter-tenured current employees ceased accruing benefits effective October 1, 2016. Affected employees transitioned to an enhanced defined contribution plan. See Notes 11 and 12.

During 2018, the funded status of the Company's pension plans improved by \$407 million. As of September 30, 2018, the U.S. pension plans were overfunded by \$276 million in total, including unfunded plans totaling \$182 million. The non-U.S. plans were underfunded by \$199 million, including unfunded plans totaling \$270 million. The Company contributed a total of \$61 million to defined benefit plans in 2018 and expects to contribute approximately \$60 million in 2019. At year-end 2018, the discount rate for U.S. plans was 4.26 percent, and was 3.76 percent in 2017. The assumed investment return on plan assets was 7.00 percent in 2018, 7.25 percent in 2017 and 7.50 percent in 2016, and is expected to be 7.00 percent for 2019. Deferred actuarial losses to be amortized to expense in future years were \$712 million (\$531 million after-tax) as of September 30, 2018.

CONTINGENT LIABILITIES

The Company is a party to a number of pending legal proceedings and claims, including those involving general and product liability (including asbestos) and other matters, several of which claim substantial amounts of damages. The Company accrues for such liabilities when it is probable that future costs (including legal fees and expenses) will be incurred and such costs can be reasonably estimated. Accruals are based on developments to date; management's estimates of the outcomes of these matters; the Company's experience in contesting, litigating and settling similar matters; and any related insurance coverage. Although it is not possible to predict the ultimate outcome of these matters, the Company historically has been largely successful in defending itself against claims.

and suits that have been brought against it, and will continue to defend itself vigorously in all such matters. While the Company believes a material adverse impact is unlikely, given the inherent uncertainty of litigation, a remote possibility exists that a future development could have a material adverse impact on the Company. See Note 13.

INCOME TAXES

Income tax expense and tax assets and liabilities reflect management's assessment of taxes paid or expected to be paid (received) on items included in the financial statements. Deferred tax assets and liabilities arise from temporary differences between the consolidated financial statement carrying amounts of existing assets and liabilities and their respective tax bases, and consideration of operating loss and tax credit carryforwards. Deferred income taxes are measured using enacted tax rates in effect for the year in which the temporary differences are expected to be recovered or settled. The impact on deferred tax assets and liabilities of a change in tax rates is recognized in the period that includes the enactment date. Valuation allowances are provided to reduce deferred tax assets to the amount that will more likely than not be realized. This requires management to make judgments and estimates regarding the amount and timing of the reversal of taxable temporary differences, expected future taxable income, and the impact of tax planning strategies.

Uncertainty exists regarding tax positions taken in previously filed tax returns which remain subject to examination, along with positions expected to be taken in future returns. The Company provides for unrecognized tax benefits, based on the technical merits, when it is more likely than not that an uncertain tax position will not be sustained upon examination. Adjustments are made to the uncertain tax positions when facts and circumstances change, such as the closing of a tax audit; changes in applicable tax laws, including tax case rulings and legislative guidance; or expiration of the applicable statute of limitations.

On December 22, 2017, the U.S. government enacted the Tax Cuts and Jobs Act, which made comprehensive changes to U.S. federal income tax laws by moving from a global to a modified territorial tax regime. As a result, cash repatriated to the U.S. is generally no longer subject to U.S. federal income taxes. No provision is made for foreign withholding taxes and any applicable U.S. income taxes on the undistributed earnings of non-U.S. subsidiaries where these earnings are considered indefinitely invested or otherwise retained for continuing international operations. Determination of the amount of taxes that might be paid on these undistributed earnings if eventually remitted is not practicable. See Notes 1 and 14.

Other Items

LEGAL MATTERS

At September 30, 2018, there were no known contingent liabilities (including guarantees, pending litigation, taxes and other claims) that management believes will be material in relation to the Company's financial statements, nor were there any material commitments outside the normal course of business.

NEW ACCOUNTING PRONOUNCEMENTS

In May 2014, the FASB issued ASC 606, *Revenue from Contracts with Customers*, to update and consolidate revenue recognition guidance from multiple sources into a single, comprehensive standard to be applied for all contracts with customers. The fundamental principle of the revised standard is to recognize revenue based on the transfer of goods and services to customers at an amount that the Company expects to be entitled to in exchange for those goods and services. Also required are additional disclosures regarding the nature, extent, timing and uncertainty of revenues and associated cash flows. The Company adopted the new standard as of October 1, 2018 using the modified retrospective transition method. The cumulative effect of adoption to be recognized in the first quarter of fiscal 2019 is expected to result in an immaterial increase to retained earnings. Further, the updates are not expected to materially impact the Company's financial statements in fiscal 2019. The Company is in the process of finalizing changes to its business processes, systems, controls and accounting policies to support recognition and disclosure under the new guidance.

In February 2016, the FASB issued ASC 842, *Leases*, to require recognition on the balance sheet of assets and liabilities related to the rights and obligations associated with all lease arrangements. Currently, obligations classified as operating leases are not recorded on the balance sheet but must be disclosed. The new standard is effective for the Company in the first quarter of fiscal 2020. The Company expects the revised standard to have a material impact on its balance sheet due to the recognition of right-of-use assets and lease liabilities related to operating leases. Contractual obligations related to operating leases totaled \$661 million at September 30, 2018. The Company does not expect the new standard will materially impact its results of operations.

In February 2018, the FASB issued updates to ASC 220, *Comprehensive Income*, which permit reclassification of stranded tax effects resulting from U.S. tax reform from accumulated other comprehensive income to retained earnings. The Company adopted these updates in the fourth quarter of fiscal 2018 and reclassified \$100 million of stranded tax effects from accumulated other comprehensive income to retained earnings. See Note 17.

In March 2017, the FASB issued updates to ASC 715, *Compensation - Retirement Benefits*, which only permit the service cost component of net periodic pension and postretirement expense to be reported with other compensation costs, while all other components are required to be reported separately in other deductions. These updates are effective in the first quarter of fiscal 2019, with early adoption permitted, and must be adopted on a retrospective basis. The updates will result in the reclassification of \$40 million of income and \$38 million of expense in 2018 and 2017, respectively, from cost of sales and SG&A to other deductions, net.

In August 2017, the FASB issued updates to ASC 815, *Derivatives and Hedging*, which permit hedging contractually specified risk components. The updates also eliminate the requirement to separately measure and report hedge ineffectiveness and simplify hedge documentation and effectiveness assessment requirements. These updates are effective for the Company in the first quarter of fiscal 2020, with early adoption permitted, and must be adopted using a modified retrospective approach. The Company is in the process of evaluating the impact of the revised standard on its financial statements.

In January 2017, the FASB issued updates to ASC 350, *Intangibles - Goodwill and Other*, eliminating the requirement to measure impairment based on the implied fair value of goodwill compared to the carrying amount of a reporting unit's goodwill. Instead, goodwill impairment will be measured as the excess of a reporting unit's carrying amount over its estimated fair value. These updates are effective prospectively for impairment tests beginning in fiscal 2021, with early adoption permitted.

In August 2018, the FASB issued updates to ASC 715, *Compensation - Retirement Benefits*, which modify the disclosure requirements for employers that sponsor defined benefit plans or other postretirement plans. These updates are effective in fiscal 2021, with early adoption permitted, and must be adopted on a retrospective basis. The updates change disclosures only and will not impact the Company's results of operations.

In August 2018, the FASB issued updates to ASC 350, *Intangibles - Goodwill and Other*, which aligns the requirements for capitalizing implementation costs incurred in a hosting arrangement with the requirements for costs incurred to develop or obtain internal-use software. These updates are effective either prospectively or retrospectively in the first quarter of fiscal 2021, with early adoption permitted, and are not expected to materially impact the Company's results of operations.

FISCAL 2019 OUTLOOK

The Company's strong performance in fiscal 2018 provides momentum heading into 2019, with demand expected to continue in both mature and emerging markets and across industries. Automation Solutions net sales are expected to be up 6 to 9 percent, with underlying sales up 5 to 8 percent excluding a positive impact from acquisitions of approximately 3 percent and unfavorable currency translation of 2 percent. Commercial & Residential Solutions net sales are expected to be up 8 to 10 percent, with underlying sales up 3 to 5 percent excluding a positive impact from acquisitions of approximately 6 percent and unfavorable currency translation of 1 percent. Consolidated net sales are expected to be up 6 to 9 percent, with underlying sales up 4 to 7 percent excluding a positive impact from acquisitions of approximately 4 percent and unfavorable currency translation of 2 percent. Reported earnings per share are expected to be \$3.55 to \$3.70, while operating cash flow is expected to be approximately \$3.2 billion and free cash flow, which excludes targeted capital spending of \$650 million, is expected to be approximately \$2.5 billion.

ITEM 7A - QUANTITATIVE AND QUALITATIVE DISCLOSURES ABOUT MARKET RISK

The information from this Annual Report on Form 10-K set forth in Item 8 under "Financial Instruments" is hereby incorporated by reference.

ITEM 8 - FINANCIAL STATEMENTS AND SUPPLEMENTARY DATA

See the Company's consolidated financial statements and accompanying notes and the report thereon of KPMG LLP that follow.

Consolidated Statements of Earnings
EMERSON ELECTRIC CO. & SUBSIDIARIES

Years ended September 30
(Dollars in millions, except per share amounts)

	2016	2017	2018
Net sales	\$ 14,522	15,264	17,408
Costs and expenses:			
Cost of sales	8,260	8,860	9,948
Selling, general and administrative expenses	3,464	3,618	4,258
Other deductions, net	294	286	376
Interest expense, net of interest income of: 2016, \$27; 2017, \$36; 2018, \$43	188	165	159
Earnings from continuing operations before income taxes	2,316	2,335	2,667
Income taxes	697	660	443
Earnings from continuing operations	1,619	1,675	2,224
Discontinued operations, net of tax: 2016, \$269; 2017, \$671; 2018, \$0	45	(125)	—
Net earnings	1,664	1,550	2,224
Less: Noncontrolling interests in earnings of subsidiaries	29	32	21
Net earnings common stockholders	\$ 1,635	1,518	2,203
Earnings common stockholders:			
Earnings from continuing operations	\$ 1,590	1,643	2,203
Discontinued operations, net of tax	45	(125)	—
Net earnings common stockholders	\$ 1,635	1,518	2,203
Basic earnings per share common stockholders:			
Earnings from continuing operations	\$ 2.46	2.54	3.48
Discontinued operations	0.07	(0.19)	—
Basic earnings per common share	\$ 2.53	2.35	3.48
Diluted earnings per share common stockholders:			
Earnings from continuing operations	\$ 2.45	2.54	3.46
Discontinued operations	0.07	(0.19)	—
Diluted earnings per common share	\$ 2.52	2.35	3.46

See accompanying Notes to Consolidated Financial Statements.

Consolidated Statements of Comprehensive Income
EMERSON ELECTRIC CO. & SUBSIDIARIES

Years ended September 30
(Dollars in millions)

	2016	2017	2018
Net earnings	\$ 1,664	1,550	2,224
Other comprehensive income (loss), net of tax:			
Foreign currency translation	(188)	441	(231)
Pension and postretirement	(210)	500	242
Cash flow hedges	18	37	(7)
Total other comprehensive income (loss)	(380)	978	4
Comprehensive income	1,284	2,528	2,228
Less: Noncontrolling interests in comprehensive income of subsidiaries	31	30	21
Comprehensive income common stockholders	\$ 1,253	2,498	2,207

See accompanying Notes to Consolidated Financial Statements.

Consolidated Balance Sheets
EMERSON ELECTRIC CO. & SUBSIDIARIES

September 30 (Dollars and shares in millions, except per share amounts)

	2017	2018
ASSETS		
Current assets		
Cash and equivalents	\$ 3,062	1,093
Receivables, less allowances of \$91 in 2017 and \$113 in 2018	3,072	3,344
Inventories	1,696	1,813
Other current assets	422	369
Total current assets	8,252	6,619
Property, plant and equipment, net	3,321	3,562
Other assets		
Goodwill	5,316	6,455
Other intangible assets	1,890	2,751
Other	810	1,003
Total other assets	8,016	10,209
Total assets	\$ 19,589	20,390
LIABILITIES AND EQUITY		
Current liabilities		
Short-term borrowings and current maturities of long-term debt	\$ 862	1,623
Accounts payable	1,776	1,943
Accrued expenses	2,342	2,534
Income taxes	65	64
Total current liabilities	5,045	6,164
Long-term debt	3,794	3,137
Other liabilities	1,980	2,099
Equity		
Common stock, \$0.50 par value; authorized, 1,200.0 shares; issued, 953.4 shares; outstanding, 641.7 shares in 2017; 629.2 shares in 2018	477	477
Additional paid-in-capital	297	348
Retained earnings	21,995	23,072
Accumulated other comprehensive income (loss)	(1,019)	(1,015)
	21,750	22,882
Less: Cost of common stock in treasury, 311.7 shares in 2017; 324.2 shares in 2018	13,032	13,935
Common stockholders' equity	8,718	8,947
Noncontrolling interests in subsidiaries	52	43
Total equity	8,770	8,990
Total liabilities and equity	\$ 19,589	20,390

See accompanying Notes to Consolidated Financial Statements.

Consolidated Statements of Equity
EMERSON ELECTRIC CO. & SUBSIDIARIES

Years ended September 30
(Dollars in millions, except per share amounts)

	2016	2017	2018
Common stock	\$ 477	477	477
Additional paid-in-capital			
Beginning balance	170	205	297
Stock plans	35	92	51
Ending balance	205	297	348
Retained earnings			
Beginning balance	21,308	21,716	21,995
Net earnings common stockholders	1,635	1,518	2,203
Dividends paid (per share: 2016, \$1.90; 2017, \$1.92; 2018, \$1.94)	(1,227)	(1,239)	(1,229)
Adoption of accounting standard updates	—	—	103
Ending balance	21,716	21,995	23,072
Accumulated other comprehensive income (loss)			
Beginning balance	(1,617)	(1,999)	(1,019)
Foreign currency translation	(190)	443	(231)
Pension and postretirement	(210)	500	242
Cash flow hedges	18	37	(7)
Ending balance	(1,999)	(1,019)	(1,015)
Treasury stock			
Beginning balance	(12,257)	(12,831)	(13,032)
Purchases	(601)	(400)	(1,000)
Issued under stock plans	27	199	97
Ending balance	(12,831)	(13,032)	(13,935)
Common stockholders' equity	7,568	8,718	8,947
Noncontrolling interests in subsidiaries			
Beginning balance	47	50	52
Net earnings	29	32	21
Other comprehensive income (loss)	2	(2)	—
Dividends paid	(28)	(28)	(30)
Ending balance	50	52	43
Total equity	\$ 7,618	8,770	8,990

See accompanying Notes to Consolidated Financial Statements.

Consolidated Statements of Cash Flows
EMERSON ELECTRIC CO. & SUBSIDIARIES

Years ended September 30 (Dollars in millions)

	2016	2017	2018
Operating activities			
Net earnings	\$ 1,664	1,550	2,224
(Earnings) Loss from discontinued operations, net of tax	(45)	125	—
Adjustments to reconcile net earnings to net cash provided by operating activities:			
Depreciation and amortization	568	636	758
Changes in operating working capital	93	160	(83)
Pension funding	(66)	(45)	(61)
Other, net	285	264	54
Cash from continuing operations	2,499	2,690	2,892
Cash from discontinued operations	382	(778)	—
Cash provided by operating activities	2,881	1,912	2,892
Investing activities			
Capital expenditures	(447)	(476)	(617)
Purchases of businesses, net of cash and equivalents acquired	(132)	(2,990)	(2,203)
Divestitures of businesses	—	39	201
Other, net	30	(106)	(101)
Cash from continuing operations	(549)	(3,533)	(2,720)
Cash from discontinued operations	(77)	5,047	—
Cash provided by (used in) investing activities	(626)	1,514	(2,720)
Financing activities			
Net increase (decrease) in short-term borrowings	(34)	(1,635)	343
Proceeds from short-term borrowings greater than three months	1,264	—	—
Payments of short-term borrowings greater than three months	(1,174)	(90)	—
Payments of long-term debt	(254)	(254)	(241)
Dividends paid	(1,227)	(1,239)	(1,229)
Purchases of common stock	(601)	(400)	(1,000)
Other, net	(19)	27	35
Cash used in financing activities	(2,045)	(3,591)	(2,092)
Effect of exchange rate changes on cash and equivalents	(82)	45	(49)
Increase (Decrease) in cash and equivalents	128	(120)	(1,969)
Beginning cash and equivalents	3,054	3,182	3,062
Ending cash and equivalents	\$ 3,182	3,062	1,093
Changes in operating working capital			
Receivables	\$ 162	(25)	(189)
Inventories	58	32	17
Other current assets	(4)	(12)	(28)
Accounts payable	(22)	135	115
Accrued expenses	(57)	74	17
Income taxes	(44)	(44)	(15)
Total changes in operating working capital	\$ 93	160	(83)

See accompanying Notes to Consolidated Financial Statements.

Notes to Consolidated Financial Statements

EMERSON ELECTRIC CO. & SUBSIDIARIES

Years ended September 30
(Dollars in millions, except per share amounts or where noted)

(1) SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES

Financial Statement Presentation

The preparation of the financial statements in conformity with U.S. generally accepted accounting principles (U.S. GAAP) requires management to make estimates and assumptions that affect reported amounts and related disclosures. Actual results could differ from these estimates. Certain prior year amounts have been reclassified to conform with current year presentation.

In the fourth quarter of 2018, the Company adopted updates to ASC 220, *Comprehensive Income*, which permit reclassification of stranded tax effects resulting from U.S. tax reform from accumulated other comprehensive income to retained earnings. The Company reclassified \$100 of stranded tax effects from accumulated other comprehensive income to retained earnings upon adoption of these updates. See Note 17.

In the first quarter of 2018, the Company adopted updates to ASC 740, *Income Taxes*, which require recognition of the income tax effects of intra-entity transfers of assets other than inventory when the transfer occurs, on a modified retrospective basis. The adoption of these updates resulted in an increase of \$3 to retained earnings.

In the first quarter of 2018, the Company adopted updates to ASC 330, *Inventory*, which changed the measurement principle for inventory from the lower of cost or market to the lower of cost and net realizable value. These updates were adopted prospectively and did not materially impact the Company's financial statements.

In the fourth quarter of 2017, the Company adopted updates to ASC 718, *Compensation - Stock Compensation*, which require all excess tax benefits and deficiencies related to share-based payments to be recognized in income tax expense rather than through additional paid-in-capital, and to be presented as operating cash flows instead of financing. These updates did not materially impact the Company's financial statements.

In the fourth quarter of 2017, the Company adopted updates to ASC 740, *Income Taxes*, which require noncurrent presentation of all deferred tax assets and liabilities on the balance sheet. These updates were adopted on a prospective basis and resulted in the reclassification of current deferred tax assets and liabilities to noncurrent presentation.

In the fourth quarter of 2017, the Company adopted updates to ASC 820, *Fair Value Measurement*, which require investments measured using the net asset value per share practical expedient to be removed from the fair value hierarchy and separately reported when making disclosures. These updates did not change the determination of fair value for any investments. Adoption affected disclosure presentation only; there was no impact on the Company's financial results.

In the first quarter of 2017, the Company adopted updates to ASC Subtopic 835-30, *Interest-Imputation of Interest*, which require presentation of debt issuance costs as a deduction from the related debt liability rather than within other assets. These updates were adopted on a retrospective basis and did not materially impact the Company's financial statements.

Principles of Consolidation

The consolidated financial statements include the accounts of the Company and its controlled affiliates. Intercompany transactions, profits and balances are eliminated in consolidation. Investments of 20 percent to 50 percent of the voting shares of other entities are accounted for by the equity method. Investments in publicly traded companies of less than 20 percent are carried at fair value, with changes in fair value reflected in accumulated other comprehensive income. Investments in nonpublicly traded companies of less than 20 percent are carried at cost.

Foreign Currency Translation

The functional currency for most of the Company's non-U.S. subsidiaries is the local currency. Adjustments resulting from translating local currency financial statements into U.S. dollars are reflected in accumulated other comprehensive income.

Cash Equivalents

Cash equivalents consist of highly liquid investments with original maturities of three months or less.

Inventories

Inventories are stated at the lower of cost and net realizable value. The majority of inventory is valued based on standard costs, which approximate average costs, while the remainder is principally valued on a first-in, first-out basis. Cost standards are revised at the beginning of each year. The annual effect of resetting standards plus any operating variances incurred during each period are allocated to inventories and recognized in cost of sales as product is sold. Following are the components of inventory as of September 30:

	2017	2018
Finished products	\$ 560	592
Raw materials and work in process	1,136	1,221
Total inventories	<u>\$ 1,696</u>	<u>1,813</u>

Fair Value Measurement

ASC 820, *Fair Value Measurement*, establishes a formal hierarchy and framework for measuring certain financial statement items at fair value, and requires disclosures about fair value measurements and the reliability of valuation inputs. Under ASC 820, measurement assumes the transaction to sell an asset or transfer a liability occurs in the principal or at least the most advantageous market for that asset or liability. Within the hierarchy, Level 1 instruments use observable market prices for an identical item in active markets and have the most reliable valuations. Level 2 instruments are valued through broker/dealer quotation or other approaches using market-observable inputs for similar items in active markets, including forward and spot prices, interest rates and volatilities. Level 3 instruments are valued using inputs not observable in an active market, such as company-developed future cash flow estimates, and are considered the least reliable. Valuations for all of the Company's financial instruments fall within Level 2. The fair value of the Company's long-term debt is Level 2, estimated using current interest rates and pricing from financial institutions and other market sources for debt with similar maturities and characteristics.

Property, Plant and Equipment

The Company records investments in land, buildings, and machinery and equipment at cost. Depreciation is computed principally using the straight-line method over estimated service lives, which for principal assets are 30 to 40 years for buildings and 8 to 12 years for machinery and equipment. Long-lived tangible assets are reviewed for impairment whenever events or changes in business circumstances indicate the carrying value of the assets may not be recoverable. Impairment losses are recognized based on estimated fair values if the sum of estimated future undiscounted cash flows of the related assets is less than the carrying values. The components of property, plant and equipment as of September 30 follow:

	2017	2018
Land	\$ 295	316
Buildings	2,043	2,145
Machinery and equipment	5,175	5,470
Construction in progress	360	439
Property, plant and equipment, at cost	<u>7,873</u>	<u>8,370</u>
Less: Accumulated depreciation	4,552	4,808
Property, plant and equipment, net	<u>\$ 3,321</u>	<u>3,562</u>

Goodwill and Other Intangible Assets

Assets and liabilities acquired in business combinations are accounted for using the acquisition method and recorded at their respective fair values. Substantially all goodwill is assigned to the reporting unit that acquires a business. A reporting unit is an operating segment as defined in ASC 280, *Segment Reporting*, or a business one level below an operating segment if discrete financial information for that business unit is prepared and regularly reviewed by the segment manager. The Company conducts annual impairment tests of goodwill in the fourth quarter. If an initial assessment indicates it is more likely than not goodwill might be impaired, it is evaluated by comparing the reporting unit's estimated fair value to its carrying value. Goodwill is also tested for impairment between annual tests if events or circumstances indicate the fair value of a unit may be less than its carrying value. If the carrying amount exceeds the estimated fair value, impairment is recognized to the extent that recorded goodwill exceeds the implied fair value of that goodwill. Estimated fair values of reporting units are Level 3 measures and are developed generally under an income approach that discounts estimated future cash flows using risk-adjusted interest rates.

All of the Company's identifiable intangible assets are subject to amortization on a straight-line basis over their estimated useful lives. Identifiable intangibles consist of intellectual property such as patents and trademarks, customer relationships and capitalized software. Identifiable intangibles are also subject to evaluation for potential impairment if events or circumstances indicate the carrying amount may not be recoverable. See Note 7.

Product Warranty

Warranties vary by product line and are competitive for the markets in which the Company operates. Warranties generally extend for a period of one to two years from the date of sale or installation. Provisions for warranty are determined primarily based on historical warranty cost as a percentage of sales or a fixed amount per unit sold based on failure rates, adjusted for specific problems that may arise. Product warranty expense is less than one percent of sales.

Revenue Recognition

The Company recognizes a large majority of its revenues through the sale of manufactured products and records the sale when products are shipped or delivered, title and risk of loss pass to the customer, and collection is reasonably assured. Less than ten percent of the Company's revenues are recognized using the percentage-of-completion method as performance occurs, and revenue from software sales is recognized in accordance with ASC 985-605. Management believes that all relevant criteria and conditions are considered when recognizing revenue.

Sales arrangements sometimes involve delivering multiple elements. In these instances, the revenue assigned to each element is based on vendor-specific objective evidence, third-party evidence or a management estimate of the relative selling price. Revenue is recognized for delivered elements if they have value to the customer on a stand-alone basis and performance related to the undelivered items is probable and substantially in the Company's control, or the undelivered elements are inconsequential or perfunctory and there are no unsatisfied contingencies related to payment. Approximately five percent of the Company's revenues from continuing operations arise from qualifying sales arrangements that include the delivery of multiple elements, principally in the Automation Solutions segment. The vast majority of these deliverables are tangible products, with a smaller portion attributable to installation, service or maintenance. Generally, contract duration is short term, and cancellation, termination or refund provisions apply only in the event of contract breach and have historically not been invoked.

Derivatives and Hedging

In the normal course of business, the Company is exposed to changes in interest rates, foreign currency exchange rates and commodity prices due to its worldwide presence and diverse business profile. The Company's foreign currency exposures relate to transactions denominated in currencies that differ from the functional currencies of its business units, primarily in euros, Mexican pesos and Singapore dollars. Primary commodity exposures are price fluctuations on forecasted purchases of copper and aluminum and related products. As part of the Company's risk management strategy, derivative instruments are selectively used in an effort to minimize the impact of these exposures. Foreign exchange forwards and options are utilized to hedge foreign currency exposures impacting sales or cost of sales transactions, firm commitments and the fair value of assets and liabilities, while swap and option contracts may be used to minimize the effect of commodity price fluctuations on the cost of sales. All derivatives are associated with specific underlying exposures and the Company does not hold derivatives for trading or speculative purposes. The duration of hedge positions is generally two years or less.

All derivatives are accounted for under ASC 815, *Derivatives and Hedging*, and recognized at fair value. For derivatives hedging variability in future cash flows, the effective portion of any gain or loss is deferred in stockholders' equity and recognized when the underlying hedged transaction impacts earnings. The majority of the Company's derivatives that are designated as hedges and qualify for deferral accounting are cash flow hedges. For derivatives hedging the fair value of existing assets or liabilities, both the gain or loss on the derivative and the offsetting loss or gain on the hedged item are recognized in earnings each period. Currency fluctuations on non-U.S. dollar obligations that have been designated as hedges of non-U.S. dollar net asset exposures are reported in equity. To the extent that any hedge is not fully effective at offsetting changes in the underlying hedged item, there could be a net earnings impact. The Company also uses derivatives to hedge economic exposures that do not receive deferral accounting under ASC 815. The underlying exposures for these hedges relate primarily to purchases of commodity-based components used in the Company's manufacturing processes, and the revaluation of certain foreign-currency-denominated assets and liabilities. Gains or losses from the ineffective portion of any hedge, as well as any gains or losses on derivative instruments not designated as hedges, are recognized in the income statement immediately.

Counterparties to derivative arrangements are companies with high credit ratings, and the Company has bilateral collateral arrangements with them for which credit rating-based posting thresholds vary depending on the arrangement. If credit ratings on the Company's debt fall below preestablished levels, counterparties can require immediate full collateralization on all instruments in net liability positions. No collateral was posted with counterparties and none was held by the Company at year end. If contractual thresholds had been exceeded, the maximum collateral the Company could have been required to post was \$11. The Company can also demand full collateralization of instruments in net asset positions should any of the Company's counterparties' credit ratings fall below certain thresholds. Risk from credit loss when derivatives are in asset positions is not considered material. The Company has master netting arrangements in place with its counterparties that allow the offsetting of certain derivative-related amounts receivable and payable when settlement occurs in the same period. Accordingly, counterparty balances are netted in the consolidated balance sheet and are reported in other current assets or accrued expenses as appropriate, depending on positions with counterparties as of the balance sheet date. See Note 8.

Income Taxes

The provision for income taxes is based on pretax income reported in the consolidated statements of earnings and tax rates currently enacted in each jurisdiction. Certain income and expense items are recognized in different time periods for financial reporting and income tax filing purposes, and deferred income taxes are provided for the effect of temporary differences. The Company also provides for foreign withholding taxes and any applicable U.S. income taxes on earnings intended to be repatriated from non-U.S. locations. No provision has been made for these taxes on approximately \$3.4 billion of undistributed earnings of non-U.S. subsidiaries as of September 30, 2018, as these earnings are considered indefinitely invested or otherwise retained for continuing international operations. Recognition of foreign withholding taxes and any applicable U.S. income taxes on undistributed non-U.S. earnings would be triggered by a management decision to repatriate those earnings. Determination of the amount of taxes that might be paid on these undistributed earnings if eventually remitted is not practicable. See Note 14.

(2) WEIGHTED-AVERAGE COMMON SHARES

Basic earnings per common share consider only the weighted-average of common shares outstanding while diluted earnings per common share also consider the dilutive effects of stock options and incentive shares. An inconsequential number of shares of common stock were excluded from the computation of dilutive earnings per in 2018 as the effect would have been antidilutive, while 4.5 million and 13.3 million shares of common stock were excluded in 2017 and 2016, respectively. Earnings allocated to participating securities were inconsequential for all years presented. Reconciliations of weighted-average shares for basic and diluted earnings per common share follow (shares in millions):

	2016	2017	2018
Basic shares outstanding	644.0	642.1	632.0
Dilutive shares	2.8	1.3	3.3
Diluted shares outstanding	646.8	643.4	635.3

(3) ACQUISITIONS AND DIVESTITURES

On July 17, 2018, the Company completed the acquisition of Aventics, a global provider of smart pneumatics technologies that power machine and factory automation applications, for \$622 , net of cash acquired. This business, which has annual sales of approximately \$425 , is reported in the Industrial Solutions product offering in the Automation Solutions segment. The Company recognized goodwill of \$358 (\$20 of which is expected to be tax deductible), and identifiable intangible assets of \$278 , primarily intellectual property and customer relationships with a weighted-average useful life of approximately 12 years.

On July 2, 2018, the Company completed the acquisition of Textron's tools and test equipment business for \$810 , net of cash acquired. This business, with annual sales of approximately \$470 , is a manufacturer of electrical and utility tools, diagnostics, and test and measurement instruments, and is reported in the Tools & Home products segment. The Company recognized goodwill of \$374 (\$17 of which is expected to be tax deductible), and identifiable intangible assets of \$358 , primarily intellectual property and customer relationships with a weighted-average useful life of approximately 14 years.

On December 1, 2017, the Company acquired Paradigm, a provider of software solutions for the oil and gas industry, for \$505 , net of cash acquired. This business had annual sales of approximately \$140 and is included in the Measurement & Analytical Instrumentation product offering within Automation Solutions. The Company recognized goodwill of \$328 (\$160 of which is expected to be tax deductible), and identifiable intangible assets of \$238 , primarily intellectual property and customer relationships with a weighted-average useful life of approximately 11 years.

During 2018 , the Company also acquired four smaller businesses, two in the Automation Solutions segment and two in the Climate Technologies segment.

Total cash paid for all businesses for the fiscal year ended 2018 was \$2.2 billion , net of cash acquired. The purchase price of the 2018 acquisitions was preliminarily allocated to assets and liabilities as follows. Valuations of acquired assets and liabilities are in process and subject to refinement.

Accounts receivable	\$ 154
Inventory	196
Property, plant and equipment	129
Goodwill	1,188
Intangibles	1,012
Other assets	45
Total assets	<u>2,724</u>
Accounts payable	73
Other current liabilities	112
Deferred taxes and other liabilities	320
Cash paid, net of cash acquired	<u>\$ 2,219</u>

Results of operations for the 2018 acquisitions included sales of \$365 and a net loss of \$3 , including intangibles amortization of \$40 and restructuring expense of \$3 . These results also included first year pretax acquisition accounting charges related to inventory and deferred revenue of \$39 and \$11 , respectively, which are reported in Corporate and other. See Note 18.

On April 28, 2017, the Company completed the acquisition of Pentair's valves & controls business for \$2.96 billion , net of cash acquired of \$207 , subject to certain post-closing adjustments. This business, with annualized sales of approximately \$1.4 billion , is a manufacturer of control, isolation and pressure relief valves and actuators, and complements the Valves, Actuators & Regulators product offering within Automation Solutions. The Company recognized goodwill of \$1.5 billion (none of which is expected to be tax deductible), and other identifiable intangible assets of \$1.1 billion , primarily customer relationships and intellectual property with a weighted-average life of approximately 14 years. The Company also acquired two smaller businesses in the Automation Solutions segment. Total cash paid for all businesses was \$3.0 billion , net of cash acquired.

The purchase price of the valves & controls business was allocated to assets and liabilities as follows.

Accounts receivable	\$ 349
Inventory	516
Property, plant and equipment	339
Goodwill	1,476
Intangibles	1,076
Other assets	282
Total assets	4,038
Accounts payable	119
Other current liabilities	306
Deferred taxes and other liabilities	671
Cash paid, net of cash acquired	\$ 2,942

Results of operations for 2017 included sales of \$600 and a net loss of \$97 , \$ 0.15 per share, including restructuring expense of \$25 and intangibles amortization of \$29 . These results also included first year pretax acquisition accounting charges related to inventory of \$74 and backlog of \$19 , or a total of \$93 (\$65 after-tax, \$ 0.10 per share), which are reported in Corporate and other in 2017. See Note 18.

On October 2, 2017, the Company sold its residential storage business for \$200 in cash, and recognized a small pretax gain and an after-tax loss of \$24 (\$0.04 per share) in the first quarter of 2018 due to income taxes resulting from nondeductible goodwill. The Company realized \$150 in after-tax cash proceeds from the sale. This business, with sales of \$298 and pretax earnings of \$15 in 2017, is a leader in home organization and storage systems, and was reported within the Tools & Home Products segment. Assets and liabilities for this business were classified as held-for-sale in the consolidated balance sheet at September 30, 2017 as follows: current assets, \$73 ; other assets, \$176 ; and accrued expenses and other liabilities, \$61 .

The Company acquired six businesses in 2016, four in Automation Solutions and two in Climate Technologies. Total cash paid for these businesses was \$132 , net of cash acquired. Annualized sales for these businesses were approximately \$51 in 2016. The Company recognized goodwill of \$83 (\$27 of which is expected to be tax deductible) and other identifiable intangible assets of \$50 , primarily customer relationships and intellectual property with a weighted-average life of approximately nine years.

The results of operations of the acquired businesses discussed above have been included in the Company's consolidated results of operations since the respective dates of acquisition.

Pro Forma Financial Information (Unaudited)

The following pro forma consolidated condensed financial results of operations are presented as if the 2018 acquisitions occurred on October 1, 2016 and the acquisition of the valves & controls business occurred on October 1, 2015. The pro forma information is presented for informational purposes only and is not indicative of the results of operations that would have been achieved had the acquisitions occurred as of that time.

	2017	2018
Net sales	\$ 17,148	18,186
Net earnings from continuing operations common stockholders	\$ 1,638	2,269
Diluted earnings per share from continuing operations	\$ 2.53	3.56

The 2018 pro forma results exclude acquisition costs and first year acquisition accounting charges related to inventory, backlog and deferred revenue of \$102 . Of these charges, \$73 related to businesses acquired in 2018 and \$29 related to the valves & controls acquisition. The 2017 pro forma results include the charges related to the 2018 acquisitions. The 2017 pro forma results exclude first year acquisition accounting charges related to the valves & controls business of \$93 and acquisition costs of \$52 .

(4) DISCONTINUED OPERATIONS

In 2017, the Company completed the previously announced strategic actions to streamline its portfolio and drive growth in its core businesses. On November 30, 2016, the Company completed the sale of its network power systems business for \$4.0 billion in cash and retained a subordinated interest in distributions, contingent upon the equity holders first receiving a threshold return on their initial investment. This business comprised the former Network Power segment. Additionally, on January 31, 2017, the Company completed the sale of its power generation, motors and drives business for approximately \$1.2 billion, subject to post-closing adjustments. This business was previously reported in the former Industrial Automation segment. The results of operations for these businesses were reported within discontinued operations and the assets and liabilities were reflected as held-for-sale for periods presented until disposal.

The financial results of the network power systems business and power generation, motors and drives business reported as discontinued operations for the years ending September 30, 2017 and 2016, were as follows:

	Network Power Systems		Power Generation, Motors and Drives		Total	
	2016	2017	2016	2017	2016	2017
Net sales	\$ 4,378	630	1,368	407	5,746	1,037
Cost of sales	2,708	394	1,033	307	3,741	701
SG&A	1,101	180	269	83	1,370	263
Other deductions, net	172	(515)	149	42	321	(473)
Earnings (Loss) before income taxes	397	571	(83)	(25)	314	546
Income taxes	218	577	51	94	269	671
Earnings (Loss), net of tax	\$ 179	(6)	(134)	(119)	45	(125)

In 2017, the net loss from discontinued operations of \$125, \$0.19 per share, included an after-tax gain on the divestiture of the network power systems business of \$125 (\$519 pretax), a \$173 after-tax loss (\$36 pretax loss) on the divestiture of the power generation, motors and drives business, income tax expense of \$109 for repatriation of sales proceeds, and lower expense of \$32 primarily due to ceasing depreciation and amortization for the discontinued businesses held-for-sale.

Discontinued operations income of \$45, \$0.07 per share, in 2016 included earnings from operations of \$344 and costs to execute the portfolio repositioning of \$299. These costs are comprised of income tax expense of \$143 for repatriation of cash from these businesses, reorganization of their legal structures prior to sale, and basis differences for book and tax, as well as costs for legal, consulting, investment banking and other expenses of \$77. In addition, net earnings for 2016 included a loss of \$103 to write down the power generation, motors and drives business to the sales price less costs to sell, and lower expense of \$24 due to ceasing depreciation and amortization for the discontinued businesses held-for-sale.

Net cash from operating activities and from investing activities for the network power systems business and the power generation, motors and drives business for the years ending September 30, 2017 and 2016, were as follows:

	Network Power Systems		Power Generation, Motors and Drives		Total	
	2016	2017	2016	2017	2016	2017
Cash from operating activities	\$ 343	(615)	39	(163)	382	(778)
Cash from investing activities	\$ (33)	3,952	(44)	1,095	(77)	5,047

Operating cash flow used by discontinued operations was \$778 for 2017, which primarily included payments of approximately \$700 for income taxes on completion of the divestitures and repatriation of cash, cash used by operations and other costs. Operating cash flow from discontinued operations in 2016 was net of payments of \$179 for separation costs.

(5) OTHER DEDUCTIONS, NET

Other deductions, net are summarized as follows:

	2016	2017	2018
Amortization of intangibles (intellectual property and customer relationships)	\$ 84	136	211
Restructuring costs	96	78	65
Other	114	72	100
Total	\$ 294	286	376

The increase in amortization for 2018 is due to acquisitions. Other, which is composed of several items, including acquisition/divestiture costs, foreign currency transaction gains and losses, bad debt expense, litigation and other items, increased in 2018 primarily due to higher acquisition/divestiture costs of \$18. The decrease in 2017 is primarily due to favorable foreign currency transactions comparisons of \$78 (unfavorable in 2016), partially offset by higher acquisition/divestiture costs of \$24 and the comparative impact of a \$21 gain from payments received related to dumping duties in 2016.

(6) RESTRUCTURING COSTS

Each year the Company incurs costs to size its businesses to levels appropriate for current economic conditions and to continually improve its cost structure and operational efficiency, deploy assets globally, and remain competitive on a worldwide basis. Costs result from numerous individual actions implemented across the Company's various operating units on an ongoing basis and can include costs for moving facilities to best-cost locations, restarting plants after relocation or geographic expansion to better serve local markets, reducing forcecount or the number of facilities, exiting certain product lines, and other costs resulting from asset deployment decisions. By category, shutdown costs include severance and benefits, stay bonuses, lease and other contract termination costs and asset write-downs. Vacant facility costs include security, maintenance, utilities and other costs. Start-up and moving costs include the costs of relocating fixed assets and employee training and relocation.

Restructuring expenses were \$65, \$78 and \$96, respectively, for 2018, 2017 and 2016. The 2018 and 2017 restructuring expense included \$19 and \$25 related to acquisitions, respectively.

Restructuring costs by business segment follows:

	2016	2017	2018
Automation Solutions	\$ 80	63	41
Climate Technologies	5	10	20
Tools & Home Products	2	2	3
Commercial & Residential Solutions	7	12	23
Corporate	9	3	1
Total	\$ 96	78	65

Costs incurred in 2018 and 2017 primarily related to the deployment of resources to better serve local markets and higher growth areas, and the integration of acquisitions. In 2016 costs primarily related to the reduction and selective repositioning of the Company's cost structure to address global economic weakness and in connection with the portfolio repositioning through facilities and forcecount rationalization in Europe and North America, primarily in Automation Solutions. In 2018, restructuring activities included actions to exit six production or office facilities worldwide and eliminate approximately 1,200 positions. Expenses incurred in 2017 and 2016 included actions to exit 10 and 19 facilities, and eliminate approximately 1,200 and 1,900 positions, respectively.

The change in the liability for restructuring costs during the years ended September 30 follows:

	2017	Expense	Utilized/Paid	2018
Severance and benefits	\$ 60	43	57	46
Lease and other contract terminations	4	3	4	3
Asset write-downs	—	4	4	—
Vacant facility and other shutdown costs	1	6	4	3
Start-up and moving costs	—	9	9	—
Total	\$ 65	65	78	52

	2016	Expense	Utilized/Paid	2017
Severance and benefits	\$ 44	49	33	60
Lease and other contract terminations	5	4	5	4
Asset write-downs	—	7	7	—
Vacant facility and other shutdown costs	3	5	7	1
Start-up and moving costs	2	13	15	—
Total	\$ 54	78	67	65

(7) GOODWILL AND OTHER INTANGIBLES

Purchases of businesses are accounted for under the acquisition method, with substantially all goodwill assigned to the reporting unit that acquires the business. Under an impairment test performed annually, if the carrying amount of a reporting unit exceeds its estimated fair value, impairment is recognized to the extent that the carrying amount of the unit's goodwill exceeds the implied fair value of the goodwill. Fair values of reporting units are Level 3 measures which are estimated generally using an income approach that discounts future cash flows using risk-adjusted interest rates, as well as earnings multiples or other techniques as warranted. Fair values are subject to changes in underlying economic conditions.

The change in the carrying value of goodwill by business segment follows:

	Automation Solutions	Climate Technologies	Tools & Home Products	Commercial & Residential Solutions	Total
Balance, September 30, 2016	\$ 3,160	553	196	749	3,909
Acquisitions	1,486				1,486
Divestitures			(142)	(142)	(142)
Foreign currency translation and other	58	2	3	5	63
Balance, September 30, 2017	4,704	555	57	612	5,316
Acquisitions	696	118	374	492	1,188
Foreign currency translation and other	(45)	(3)	(1)	(4)	(49)
Balance, September 30, 2018	\$ 5,355	670	430	1,100	6,455

The gross carrying amount and accumulated amortization of identifiable intangible assets by major class follow:

	Customer Relationships		Intellectual Property		Capitalized Software		Total	
	2017	2018	2017	2018	2017	2018	2017	2018
Gross carrying amount	\$ 1,392	1,968	1,012	1,469	1,137	1,230	3,541	4,667
Less: Accumulated amortization	361	451	435	544	855	921	1,651	1,916
Net carrying amount	\$ 1,031	1,517	577	925	282	309	1,890	2,751

Intangible asset amortization expense for the major classes included above for 2018, 2017 and 2016 was \$314, \$222 and \$177, respectively. Based on intangible asset balances as of September 30, 2018, amortization expense is expected to approximate \$338 in 2019, \$308 in 2020, \$280 in 2021, \$235 in 2022 and \$222 in 2023.

The increase in goodwill and intangibles is primarily due to acquisitions. See Note 3.

(8) FINANCIAL INSTRUMENTS

Hedging Activities

As of September 30, 2018, the notional amount of foreign currency hedge positions was approximately \$1.9 billion, while commodity hedge contracts totaled approximately \$140 (primarily 52 million pounds of copper and aluminum). All derivatives receiving deferral accounting are cash flow hedges. The majority of hedging gains and losses deferred as of September 30, 2018 are expected to be recognized over the next 12 months as the underlying forecasted transactions occur. Gains and losses on foreign currency derivatives reported in other deductions, net reflect hedges of balance sheet exposures that do not receive deferral accounting.

Amounts included in earnings and other comprehensive income follow:

	Location	Gain (Loss) to Earnings			Gain (Loss) to OCI		
		2016	2017	2018	2016	2017	2018
Commodity	Cost of sales	\$ (35)	10	13	(9)	25	(7)
Foreign currency	Sales, cost of sales	(41)	(15)	2	(38)	30	9
Foreign currency	Other deductions, net	(27)	(39)	(15)			
Total		\$ (103)	(44)	—	(47)	55	2

Regardless of whether derivatives receive deferral accounting, the Company expects hedging gains or losses to be essentially offset by losses or gains on the related underlying exposures. The amounts ultimately recognized will differ from those presented above for open positions, which remain subject to ongoing market price fluctuations until settlement. Derivatives receiving deferral accounting are highly effective and no amounts were excluded from the assessment of hedge effectiveness. Hedge ineffectiveness was immaterial in all years shown.

Fair Value Measurement

The estimated fair value of long-term debt was \$4.0 billion and \$4.4 billion, respectively, as of September 30, 2018 and 2017, which exceeded the carrying value by \$135 and \$321, respectively. As of September 30, 2018, the fair value of commodity contracts and foreign currency contracts was reported in other current assets and accrued expenses. Valuations of derivative contract positions as of September 30 follow:

	2017		2018	
	Assets	Liabilities	Assets	Liabilities
Foreign currency	\$ 26	18	35	11
Commodity	\$ 12	—	1	10

(9) SHORT-TERM BORROWINGS AND LINES OF CREDIT

Short-term borrowings and current maturities of long-term debt are as follows:

	2017	2018
Current maturities of long-term debt	\$ 270	688
Commercial paper	592	935
Total	\$ 862	1,623
Interest rate for weighted-average short-term borrowings at year end	1.1%	2.1%

In May 2018, the Company entered into a \$3.5 billion five -year revolving backup credit facility with various banks, which replaced the April 2014 \$3.5 billion facility. The credit facility is maintained to support general corporate purposes, including commercial paper borrowings. The Company has not incurred any borrowings under this or previous facilities. The credit facility contains no financial covenants and is not subject to termination based on a change of credit rating or material adverse changes. The facility is unsecured and may be accessed under various interest rate and currency denomination alternatives at the Company's option. Fees to maintain the facility are immaterial.

(10) LONG-TERM DEBT

The details of long-term debt follow:

	2017	2018
5.375% notes due October 2017	\$ 250	—
5.25% notes due October 2018	400	400
5.0% notes due April 2019	250	250
4.875% notes due October 2019	500	500
4.25% notes due November 2020	300	300
2.625% notes due December 2021	500	500
2.625% notes due February 2023	500	500
3.15% notes due June 2025	500	500
6.0% notes due August 2032	250	250
6.125% notes due April 2039	250	250
5.25% notes due November 2039	300	300
Other	64	75
Long-term debt	4,064	3,825
Less: Current maturities	270	688
Total, net	\$ 3,794	3,137

Long-term debt maturing during each of the four years after 2019 is \$512 , \$319 , \$500 and \$501 , respectively. Total interest paid on all debt was approximately \$193 , \$192 and \$209 in 2018 , 2017 and 2016 , respectively. During the year, the Company repaid \$250 of 5.375% notes that matured in October 2017. In 2017 , the Company repaid \$250 of 5.125% notes that matured in December 2016.

The Company maintains a universal shelf registration statement on file with the SEC under which it can issue debt securities, preferred stock, common stock, warrants, share purchase contracts or share purchase units without a predetermined limit. Securities can be sold in one or more separate offerings with the size, price and terms to be determined at the time of sale.

(11) RETIREMENT PLANS

Retirement plans expense includes the following components:

	U.S. Plans			Non-U.S. Plans		
	2016	2017	2018	2016	2017	2018
Defined benefit plans:						
Service cost (benefits earned during the period)	\$ 59	60	52	26	19	24
Interest cost	148	134	141	39	30	39
Expected return on plan assets	(296)	(290)	(283)	(52)	(56)	(67)
Net amortization and other	166	211	129	17	22	14
Net periodic pension expense	77	115	39	30	15	10
Defined contribution plans	104	96	132	56	47	52
Total retirement plans expense	\$ 181	211	171	86	62	62

The decrease in net periodic pension expense in 2018 is primarily attributable to lower amortization expense compared to the prior year. Net periodic pension expense includes \$3 and \$12 and defined contribution expense includes \$6 and \$34 , for 2017 and 2016 , respectively, related to discontinued operations. For defined contribution plans, the Company makes cash contributions based on plan requirements, which are expensed as incurred.

The Company transitioned from defined benefit to defined contribution retirement plans in 2016. The principal U.S. defined benefit pension plan is closed to employees hired after January 1, 2016, and current employees not meeting combined age and years of service criteria ceased accruing benefits effective October 1, 2016. Affected employees were enrolled in an enhanced defined contribution plan. The impact of these actions had an inconsequential impact on the Company's financial statements for all years presented. Over time, defined benefit plan expense will decline while defined contribution plan expense will increase, with an expectation of reduced earnings volatility.

All of the following tables include defined benefit plans related to continuing and discontinued operations.

Details of the changes in the actuarial present value of the projected benefit obligation and the fair value of plan assets for defined benefit pension plans follow:

	U.S. Plans		Non-U.S. Plans	
	2017	2018	2017	2018
Projected benefit obligation, beginning	\$ 4,696	4,369	1,320	1,489
Service cost	60	52	19	24
Interest cost	134	141	30	39
Actuarial (gain) loss	(144)	(262)	(83)	(51)
Benefits paid	(201)	(205)	(29)	(36)
Settlements	(125)	(152)	(25)	(49)
Acquisitions (Divestitures), net	(55)	13	163	54
Foreign currency translation and other	4	1	94	(28)
Projected benefit obligation, ending	\$ 4,369	3,957	1,489	1,442
Fair value of plan assets, beginning	\$ 4,110	4,292	909	1,236
Actual return on plan assets	516	265	61	69
Employer contributions	20	20	25	41
Benefits paid	(201)	(205)	(29)	(36)
Settlements	(125)	(152)	(25)	(49)
Acquisitions (Divestitures), net	(30)	12	232	10
Foreign currency translation and other	2	1	63	(28)
Fair value of plan assets, ending	\$ 4,292	4,233	1,236	1,243
Net amount recognized in the balance sheet	\$ (77)	276	(253)	(199)
Location of net amount recognized in the balance sheet:				
Noncurrent asset	\$ 154	465	43	126
Current liability	(11)	(10)	(11)	(13)
Noncurrent liability	(220)	(179)	(285)	(312)
Net amount recognized in the balance sheet	\$ (77)	276	(253)	(199)
Pretax accumulated other comprehensive loss	\$ (923)	(548)	(238)	(164)

Approximately \$85 of the \$712 of pretax losses deferred in accumulated other comprehensive income (loss) at September 30, 2018 will be amortized to expense in 2019 . As of September 30, 2018 , U.S. pension plans were

overfunded by \$276 in total, including unfunded plans totaling \$182 . The non-U.S. plans were underfunded by \$199 , including unfunded plans totaling \$270 .

As of the September 30, 2018 and 2017 measurement dates, the plans' total accumulated benefit obligation was \$5,154 and \$5,607 , respectively. The total projected benefit obligation, accumulated benefit obligation and fair value of plan assets for individual plans with accumulated benefit obligations in excess of plan assets were \$585 , \$508 and \$87 , respectively, for 2018 , and \$1,182 , \$1,088 and \$663 , respectively, for 2017 .

Future benefit payments by U.S. plans are estimated to be \$214 in 2019 , \$221 in 2020 , \$228 in 2021 , \$234 in 2022 , \$239 in 2023 and \$1,252 in total over the five years 2024 through 2028. Based on foreign currency exchange rates as of September 30, 2018 , future benefit payments by non-U.S. plans are estimated to be \$83 in both 2019 and 2020, \$88 in 2021, \$95 in 2022, \$99 in 2023 and \$569 in total over the five years 2024 through 2028. The Company expects to contribute approximately \$60 to its retirement plans in 2019 .

The weighted-average assumptions used in the valuation of pension benefits follow:

	U.S. Plans			Non-U.S. Plans		
	2016	2017	2018	2016	2017	2018
Net pension expense						
Discount rate used to determine service cost	4.60%	3.75%	3.95%	3.3%	2.3%	2.6%
Discount rate used to determine interest cost	3.50%	2.90%	3.25%	3.3%	2.3%	2.6%
Expected return on plan assets	7.50%	7.25%	7.00%	6.4%	6.2%	5.7%
Rate of compensation increase	3.25%	3.25%	3.25%	3.4%	3.2%	3.4%
Benefit obligations						
Discount rate	3.50%	3.76%	4.26%	2.3%	2.6%	2.7%
Rate of compensation increase	3.25%	3.25%	3.25%	3.2%	3.4%	3.5%

The discount rate for the U.S. retirement plans was 4.26 percent as of September 30, 2018 . An actuarially developed, company-specific yield curve is used to determine the discount rate. To determine the service and interest cost components of pension expense for its U.S. retirement plans, the Company applies the specific spot rates along the yield curve, rather than the single weighted-average rate, to the projected cash flows to provide more precise measurement of these costs. The expected return on plan assets assumption is determined by reviewing the investment returns of the plans for the past 10 years plus longer-term historical returns of an asset mix approximating the Company's asset allocation targets, and periodically comparing these returns to expectations of investment advisors and actuaries to determine whether long-term future returns are expected to differ significantly from the past.

The Company's asset allocations at September 30, 2018 and 2017 , and weighted-average target allocations follow:

	U.S. Plans			Non-U.S. Plans		
	2017	2018	Target	2017	2018	Target
Equity securities	67%	62%	60-70%	52%	52%	45-55%
Debt securities	28	34	25-35	38	38	35-45
Other	5	4	3-10	10	10	5-15
Total	100%	100%	100%	100%	100%	100%

The primary objective for the investment of pension assets is to secure participant retirement benefits by earning a reasonable rate of return. Plan assets are invested consistent with the provisions of the prudence and diversification rules of ERISA and with a long-term investment horizon. The Company continuously monitors the value of assets by class and routinely rebalances to remain within target allocations. The equity strategy is to minimize concentrations of risk by investing primarily in a mix of companies that are diversified across geographies, market capitalization, style, sectors and industries worldwide. The approach for bonds emphasizes investment-grade corporate and government debt with maturities matching a portion of the longer duration pension liabilities. The bonds strategy also includes a high-yield element which is generally shorter in duration. For diversification, a small

portion of U.S. plan assets is allocated to private equity partnerships and real asset fund investments, providing opportunities for above market returns. Leveraging techniques are not used and the use of derivatives in any fund is limited and inconsequential.

The fair values of defined benefit pension assets as of September 30, organized by asset class and by the fair value hierarchy of ASC 820, *Fair Value Measurement*, follow. Investments valued based on the net asset value (NAV) of fund units held, as derived from the fair value of the underlying assets, are excluded from the fair value hierarchy.

	Level 1	Level 2	Level 3	Measured at NAV	Total	%
2018						
U.S. equities	\$ 968	5	350	320	1,643	30%
International equities	595	21		745	1,361	25%
Emerging market equities				243	243	5%
Corporate bonds		696		423	1,119	20%
Government bonds		350		438	788	14%
High-yield bonds				10	10	—%
Other	107	6	121	78	312	6%
Total	\$ 1,670	1,078	471	2,257	5,476	100%
2017						
U.S. equities	\$ 1,059	5	338	357	1,759	32%
International equities	724	6		739	1,469	27%
Emerging market equities				276	276	5%
Corporate bonds		514		283	797	14%
Government bonds	3	369		399	771	14%
High-yield bonds				132	132	2%
Other	132	6	113	73	324	6%
Total	\$ 1,918	900	451	2,259	5,528	100%

Asset Classes

U.S. equities reflect companies domiciled in the U.S., including multinational companies. International equities are comprised of companies domiciled in developed nations outside the U.S. Emerging market equities are comprised of companies domiciled in portions of Asia, Eastern Europe and Latin America. Corporate bonds represent investment-grade debt of issuers primarily from the U.S. Government bonds include investment-grade instruments issued by federal, state and local governments, primarily in the U.S. High-yield bonds include noninvestment-grade debt from a diverse group of developed market issuers. Other includes cash, interests in mixed asset funds investing in commodities, natural resources, agriculture, real estate and infrastructure funds, life insurance contracts (U.S.), and shares in certain general investment funds of financial institutions or insurance arrangements (non-U.S.) that typically ensure no market losses or provide for a small minimum return guarantee.

Fair Value Hierarchy Categories

Valuations of Level 1 assets for all classes are based on quoted closing market prices from the principal exchanges where the individual securities are traded. Cash is valued at cost, which approximates fair value. Debt securities categorized as Level 2 assets are generally valued based on independent broker/dealer bids or by comparison to other debt securities having similar durations, yields and credit ratings. U.S. equity securities classified as Level 3 are fund investments in private companies. Valuation techniques and inputs for these assets include discounted cash flow analysis, earnings multiple approaches, recent transactions, transfer restrictions, prevailing discount rates, volatilities, credit ratings and other factors. In the Other class, interests in mixed asset funds are Level 2, and U.S. life insurance contracts and non-U.S. general fund investments and insurance arrangements are Level 3. Investments measured at net asset value are primarily nonexchange-traded commingled or collective funds where the underlying securities have observable prices available from active markets.

Details of the changes in value for Level 3 assets follow:

	2017	2018
Level 3, beginning	\$ 405	451
Gains (Losses) on assets held	49	1
Gains (Losses) on assets sold	(28)	37
Purchases, sales and settlements, net	25	(18)
Level 3, ending	<u>\$ 451</u>	<u>471</u>

(12) POSTRETIREMENT PLANS

The Company sponsors unfunded postretirement benefit plans (primarily health care) for certain U.S. retirees and their dependents. The components of net postretirement benefits expense for the years ended September 30 follow:

	2016	2017	2018
Service cost	\$ 1	1	1
Interest cost	8	6	6
Net amortization	(21)	(19)	(19)
Net postretirement expense	<u>\$ (12)</u>	<u>(12)</u>	<u>(12)</u>

Details of the changes in actuarial present value of accumulated postretirement benefit obligations follow:

	2017	2018
Benefit obligation, beginning	\$ 206	174
Service cost	1	1
Interest cost	6	6
Actuarial (gain) loss	(24)	(19)
Benefits paid	(13)	(13)
Divestitures	(2)	—
Benefit obligation, ending (recognized in balance sheet)	<u>\$ 174</u>	<u>149</u>

As of September 30, 2018 there were \$141 of deferred actuarial gains in accumulated other comprehensive income, of which approximately \$18 will be amortized into earnings in 2019. The discount rates used to measure the benefit obligation as of September 30, 2018, 2017 and 2016 were 4.08 percent, 3.45 percent and 3.10 percent, respectively. The health care cost trend rate used for 2019 is assumed to be 7.2 percent initially and was assumed to be 7.5 percent in 2018, declining to 5.0 percent over the subsequent 10 years. A one percentage point increase or decrease in the health care cost trend rate assumption for either year would have an inconsequential impact on postretirement benefits expense and the benefit obligation. The Company estimates that future health care benefit payments will be approximately \$13 per year for 2019 through 2023, and \$54 in total over the five years 2024 through 2028.

(13) CONTINGENT LIABILITIES AND COMMITMENTS

The Company is a party to a number of pending legal proceedings and claims, including those involving general and product liability (including asbestos) and other matters, several of which claim substantial amounts of damages. The Company accrues for such liabilities when it is probable that future costs (including legal fees and expenses) will be incurred and such costs can be reasonably estimated. Accruals are based on developments to date; management's estimates of the outcomes of these matters; the Company's experience in contesting, litigating and settling similar matters; and any related insurance coverage. Although it is not possible to predict the ultimate outcome of these matters, the Company historically has been largely successful in defending itself against claims and suits that have been brought against it, and will continue to defend itself vigorously in all such matters. While the Company believes a material adverse impact is unlikely, given the inherent uncertainty of litigation, a remote possibility exists that a future development could have a material adverse impact on the Company. The Company

enters into certain indemnification agreements in the ordinary course of business in which the indemnified party is held harmless and is reimbursed for losses incurred from claims by third parties, usually up to a prespecified limit. In connection with divestitures of certain assets or businesses, the Company often provides indemnities to the buyer with respect to certain matters including, for example, environmental or unidentified tax liabilities related to periods prior to the disposition. Because of the uncertain nature of the indemnities, the maximum liability cannot be quantified. As such, contingent liabilities are recorded when they are both probable and reasonably estimable. Historically, payments under indemnity arrangements have been inconsequential.

At September 30, 2018, there were no known contingent liabilities (including guarantees, pending litigation, taxes and other claims) that management believes will be material in relation to the Company's financial statements, nor were there any material commitments outside the normal course of business.

(14) INCOME TAXES

Pretax earnings from continuing operations consist of the following:

	2016	2017	2018
United States	\$ 1,312	1,350	1,652
Non-U.S.	1,004	985	1,015
Total pretax earnings	<u>\$ 2,316</u>	<u>2,335</u>	<u>2,667</u>

The principal components of income tax expense follow:

	2016	2017	2018
Current:			
U.S. federal	\$ 394	351	341
State and local	11	40	52
Non-U.S.	305	311	300
Deferred:			
U.S. federal	2	7	(224)
State and local	4	4	(11)
Non-U.S.	(19)	(53)	(15)
Income tax expense	<u>\$ 697</u>	<u>660</u>	<u>443</u>

Reconciliations of the U.S. federal statutory income tax rate to the Company's effective tax rate follow. For fiscal 2018, the U.S. federal statutory rate was 35 percent for one quarter and 21 percent for three quarters.

	2016	2017	2018
U.S. federal statutory rate	35.0 %	35.0 %	24.5 %
State and local taxes, net of U.S. federal tax benefit	0.5	1.2	1.2
Non-U.S. rate differential	(2.9)	(3.6)	0.8
Non-U.S. tax holidays	(1.1)	(1.0)	(0.8)
U.S. manufacturing deduction	(1.8)	(1.7)	(1.1)
Gain on divestiture	—	—	1.0
Subsidiary restructuring	—	(1.8)	(2.0)
Transition impact of Tax Act	—	—	(7.1)
Other	0.4	0.2	0.1
Effective income tax rate	<u>30.1 %</u>	<u>28.3 %</u>	<u>16.6 %</u>

On December 22, 2017, the U.S. government enacted tax reform, the Tax Cuts and Jobs Act (the "Act"), which made comprehensive changes to U.S. federal income tax laws by moving from a global to a modified territorial tax regime. The Act includes a reduction of the U.S. corporate income tax rate from 35 percent to 21 percent in calendar year 2018 along with the elimination of certain deductions and credits, and a one-time "deemed repatriation" of accumulated foreign earnings. During 2018, the Company recognized a net tax benefit of \$189 (\$0.30 per share) due to impacts of the Act, consisting of a \$94 benefit on revaluation of net deferred income tax liabilities to the lower tax rate, \$35 of expense for the tax on deemed repatriation of accumulated foreign earnings and withholding taxes, and the reversal of \$130 accrued in previous periods for the planned repatriation of non-U.S. cash.

On August 1, 2018, the U.S. Treasury and Internal Revenue Service released proposed regulations relating to the one-time tax on deemed repatriation of accumulated foreign earnings. The proposed regulations were subject to a 60-day comment period and final regulations are expected to be issued after consideration of comments received. The Company is currently evaluating the impact of the proposed regulations and anticipates finalizing its provisional estimates after fully evaluating the final regulations.

The changes made by the Act are broad and complex. As such, the final one-time deemed repatriation tax may differ materially from these provisional amounts due to additional regulatory guidance expected to be issued, changes in interpretations, or any legislative actions to address questions arising from the Act, as well as further evaluation of the Company's actions, assumptions and interpretations.

Non-U.S. tax holidays reduce tax rates in certain foreign jurisdictions and are expected to expire over the next four years.

Following are changes in unrecognized tax benefits before considering recoverability of any cross-jurisdictional tax credits (U.S. federal, state and non-U.S.) and temporary differences. The amount of unrecognized tax benefits is not expected to change significantly within the next 12 months.

	2017	2018
Unrecognized tax benefits, beginning	\$ 86	132
Additions for current year tax positions	54	13
Additions for prior year tax positions	4	8
Reductions for prior year tax positions	(6)	(8)
Acquisitions and divestitures	9	21
Reductions for settlements with tax authorities	(4)	(3)
Reductions for expiration of statutes of limitations	(11)	(5)
Unrecognized tax benefits, ending	<u>\$ 132</u>	<u>158</u>

If none of the unrecognized tax benefits shown is ultimately paid, the tax provision and the calculation of the effective tax rate would be favorably impacted by \$117 , which is net of cross-jurisdictional tax credits and temporary differences. The Company accrues interest and penalties related to income taxes in income tax expense. Total interest and penalties recognized were \$2 , \$(1) and \$2 in 2018 , 2017 and 2016 , respectively. As of September 30, 2018 and 2017 , total accrued interest and penalties were \$23 and \$16 , respectively.

The U.S. is the major jurisdiction for which the Company files income tax returns. U.S. federal tax returns are closed through 2013. The status of state and non-U.S. tax examinations varies due to the numerous legal entities and jurisdictions in which the Company operates.

The principal items that gave rise to deferred income tax assets and liabilities follow:

	2017	2018
Deferred tax assets:		
Net operating losses and tax credits	\$ 444	396
Accrued liabilities	319	238
Postretirement and postemployment benefits	70	37
Employee compensation and benefits	173	119
Pensions	72	—
Other	196	151
Total	<u>\$ 1,274</u>	<u>941</u>
Valuation allowances	<u>\$ (309)</u>	<u>(341)</u>
Deferred tax liabilities:		
Intangibles	\$ (753)	(693)
Pensions	—	(43)
Property, plant and equipment	(265)	(187)
Undistributed non-U.S. earnings	(249)	(52)
Other	(37)	(35)
Total	<u>\$ (1,304)</u>	<u>(1,010)</u>
Net deferred income tax liability	<u>\$ (339)</u>	<u>(410)</u>

As of September 30, 2017 and 2018, all deferred tax assets and liabilities were presented as noncurrent. Total income taxes paid were approximately \$680, \$1,420 and \$950 in 2018, 2017 and 2016, respectively. More than half of the \$396 of net operating losses and tax credits expire over varying periods within the next 20 years, while the remainder can be carried forward indefinitely.

(15) STOCK-BASED COMPENSATION

The Company's stock-based compensation plans include stock options, performance shares, restricted stock and restricted stock units. Although the Company has discretion, shares distributed under these plans are issued from treasury stock.

Stock Options

The Company's stock option plans permit key officers and employees to purchase common stock at specified prices, which are equal to 100 percent of the closing market price of the Company's stock on the date of grant. Options generally vest one-third in each of the three years subsequent to grant and expire 10 years from the date of grant. Compensation expense is recognized ratably over the vesting period based on the number of options expected to vest. As of September 30, 2018, 11.6 million options were available for grant under the plans.

Changes in shares subject to options during the year ended September 30, 2018 follow (shares in thousands):

	Weighted- Average Exercise Price Per Share	Shares	Total Intrinsic Value of Shares	Average Remaining Life (Years)
Beginning of year	\$ 55.49	10,759		
Options granted	\$ 66.49	21		
Options exercised	\$ 53.20	(2,869)		
Options canceled	\$ 54.95	(110)		
End of year	<u>\$ 56.37</u>	<u>7,801</u>	<u>\$ 160</u>	<u>5.1</u>
Exercisable at end of year	<u>\$ 57.30</u>	<u>6,680</u>	<u>\$ 131</u>	<u>4.8</u>

The weighted-average grant date fair value per option was \$12.13 , \$8.36 and \$9.02 in 2018 , 2017 and 2016 , respectively. Cash received for option exercises was \$143 in 2018 , \$148 in 2017 and \$31 in 2016 . The total intrinsic value of options exercised in 2018 , 2017 and 2016 was \$53 , \$36 and \$9 , while the tax benefit from tax deductions related to option exercises was \$7 , \$2 and \$2 , respectively.

The grant date fair value of options is estimated using the Black-Scholes option-pricing model. The weighted-average assumptions used in valuations for 2018 , 2017 and 2016 are, respectively: risk-free interest rate, based on U.S. Treasury yields, 2.4 percent , 1.7 percent and 1.9 percent ; dividend yield, 2.9 percent , 3.6 percent and 3.8 percent ; and expected volatility, based on historical volatility, 23 percent , 24 percent and 27 percent . The expected life of each option awarded is seven years based on historical experience and expected future exercise patterns.

Performance Shares, Restricted Stock and Restricted Stock Units

The Company's incentive shares plans include performance shares awards which distribute the value of common stock to key management employees subject to certain operating performance conditions and other restrictions. The form of distribution is primarily shares of common stock, with a portion in cash. Compensation expense for performance shares is recognized over the service period based on the number of shares ultimately expected to be earned. Performance shares awards are accounted for as liabilities in accordance with ASC 718, *Compensation - Stock Compensation* , with compensation expense adjusted at the end of each reporting period to reflect the change in fair value of the awards.

As of September 30, 2016, 4,944,575 performance shares awarded primarily in 2013 were outstanding, contingent on the Company achieving its performance objectives through 2016 and the provision of additional service by employees. The objectives for these shares were met at the 86 percent level at the end of 2016, or 4,252,335 shares. Of these, 2,549,083 shares were distributed in early 2017 as follows: 1,393,715 issued as shares, 944,002 withheld for income taxes, and the value of 211,366 paid in cash. An additional 1,691,986 shares were distributed at the end of 2017 to employees who provided one additional year of service as follows: 1,070,264 issued as shares, 616,734 withheld for income taxes, and the value of 4,988 paid in cash. There were 11,266 shares canceled and not distributed.

As of September 30, 2018, 1,874,750 shares awarded primarily in 2016 were outstanding, contingent on the Company achieving its performance objectives through 2018. The objectives for these shares were met at the 97 percent level at the end of 2018 and 1,818,508 shares will be distributed in early 2019. Additionally, the rights to receive a maximum of 2,261,700 and 2,375,313 common shares were awarded in 2018 and 2017, respectively, under the new performance shares program, and are outstanding and contingent upon the Company achieving its performance objectives through 2020 and 2019, respectively.

Incentive shares plans also include restricted stock awards which involve distribution of common stock to key management employees subject to cliff vesting at the end of service periods ranging from three to ten years. The fair value of restricted stock awards is determined based on the average of the high and low market prices of the Company's common stock on the date of grant, with compensation expense recognized ratably over the applicable service period. In 2018 , 310,000 shares of restricted stock vested as a result of participants fulfilling the applicable service requirements. Consequently, 167,837 shares were issued while 142,163 shares were withheld for income taxes in accordance with minimum withholding requirements. As of September 30, 2018 , there were 1,276,200 shares of unvested restricted stock outstanding.

The total fair value of shares distributed under incentive shares plans was \$20 , \$245 and \$11 , respectively, in 2018 , 2017 and 2016 , of which \$9 , \$101 and \$4 was paid in cash, primarily for tax withholding. As of September 30, 2018 , 10.3 million shares remained available for award under incentive shares plans.

Changes in shares outstanding but not yet earned under incentive shares plans during the year ended September 30, 2018 follow (shares in thousands; assumes 100 percent payout of unvested awards):

	Shares	Average Grant Date Fair Value Per Share
Beginning of year	4,999	\$ 50.33
Granted	2,295	\$ 63.79
Earned/vested	(310)	\$ 51.27
Canceled	(86)	\$ 56.53
End of year	6,898	\$ 54.69

Total compensation expense for stock options and incentive shares was \$216 , \$115 and \$159 for 2018 , 2017 and 2016 , respectively, of which \$5 and \$14 was included in discontinued operations for 2017 and 2016, respectively. The increase in expense for 2018 reflects an increase in the Company's stock price and progress toward achieving its performance objectives. The decrease in expense for 2017 reflects the impact of changes in the stock price. Income tax benefits recognized in the income statement for these compensation arrangements during 2018 , 2017 and 2016 were \$42 , \$33 and \$45 , respectively. As of September 30, 2018 , total unrecognized compensation expense related to unvested shares awarded under these plans was \$182 , which is expected to be recognized over a weighted-average period of 1.1 years.

In addition to the employee stock option and incentive shares plans, in 2018 the Company awarded 12,228 shares of restricted stock and 2,038 restricted stock units under the restricted stock plan for non-management directors. As of September 30, 2018 , 159,965 shares were available for issuance under this plan.

(16) COMMON AND PREFERRED STOCK

At September 30, 2018 , 37.0 million shares of common stock were reserved for issuance under the Company's stock-based compensation plans. During 2018 , 15.1 million common shares were purchased and 2.6 million treasury shares were reissued. In 2017 , 6.6 million common shares were purchased and 5.5 million treasury shares were reissued.

At September 30, 2018 and 2017 , the Company had 5.4 million shares of \$2.50 par value preferred stock authorized, with none issued.

(17) ACCUMULATED OTHER COMPREHENSIVE INCOME (LOSS)

Activity in accumulated other comprehensive income (loss) is shown below:

	2016	2017	2018
<u>Foreign currency translation</u>			
Beginning balance	\$ (622)	(812)	(369)
Other comprehensive income (loss)	(190)	58	(214)
Reclassified to gain/loss on sale of businesses	—	385	(17)
Ending balance	(812)	(369)	(600)
<u>Pension and postretirement</u>			
Beginning balance	(952)	(1,162)	(662)
Actuarial gains (losses) deferred during the period	(310)	315	250
Amortization of deferred actuarial losses into earnings	100	135	94
Reclassified to gain/loss on sale of businesses	—	50	—
Adoption of accounting standard update	—	—	(102)
Ending balance	(1,162)	(662)	(420)
<u>Cash flow hedges</u>			
Beginning balance	(43)	(25)	12
Gains (Losses) deferred during the period	(30)	34	2
Reclassifications of realized (gains) losses to sales and cost of sales	48	3	(11)
Adoption of accounting standard update	—	—	2
Ending balance	(25)	12	5
Accumulated other comprehensive income (loss)	\$ (1,999)	(1,019)	(1,015)

Activity above is shown net of income taxes for 2018 , 2017 and 2016 , respectively, as follows: deferral of pension and postretirement actuarial gains (losses): \$(76) , \$(170) and \$159 ; amortization of pension and postretirement deferred actuarial losses: \$(29) , \$(75) and \$(59) ; deferral of cash flow hedging gains (losses): \$0 , \$(21) and \$17 ; reclassification of realized cash flow hedging (gains) losses: \$4 , \$(2) and \$(28) .

(18) BUSINESS SEGMENTS INFORMATION

The Company designs and manufactures products and delivers services that bring technology and engineering together to provide innovative solutions for customers in a wide range of industrial, commercial and consumer markets around the world.

In connection with the strategic portfolio repositioning actions undertaken to transform the Company into a more focused enterprise, the Company realigned its businesses. Starting in fiscal 2017, the Company began reporting three segments: **Automation Solutions** , and **Climate Technologies** and **Tools & Home Products** which together comprise the **Commercial & Residential Solutions** business. Fiscal 2016 results were reclassified in the prior year to conform to the current presentation.

The **Automation Solutions** segment enables process, hybrid and discrete manufacturers to maximize production, protect personnel and the environment, reduce project costs, and optimize their energy efficiency and operating costs through a broad offering of integrated solutions and products, including measurement and analytical instrumentation, industrial valves and equipment, and process control systems. Significant markets served include oil and gas, refining, chemicals and power generation, as well as pharmaceuticals, food and beverage, automotive, pulp and paper, metals and mining, and municipal water supplies. The segment's major product offerings are described below.

- **Measurement & Analytical Instrumentation** products measure the physical properties of liquids or gases in a process stream and communicate this information to a process control system or other software applications, and analyze the chemical composition of process fluids and emissions to enhance quality and efficiency, as well as environmental compliance.

- **Valves, Actuators & Regulators** consists of control, isolation and pressure relief valves which respond to commands from a control system to continuously and precisely modulate the flow of process fluids, smart actuation and control technologies, pressure management products, and industrial and residential regulators that reduce the pressure of fluids moving from high-pressure supply lines into lower pressure systems.
- **Industrial Solutions** provides fluid control and pneumatic mechanisms, electrical distribution equipment, and materials joining and precision cleaning products which are used in a variety of manufacturing operations to provide integrated solutions to customers.
- **Process Control Systems & Solutions** provides a digital ecosystem that controls plant processes by communicating with and adjusting the "intelligent" plant devices described above to provide precision measurement, control, monitoring, asset optimization, and plant safety and reliability for plants that produce power, or process fluids or other items.

The **Commercial & Residential Solutions** business consists of the Climate Technologies and Tools & Home Products segments. This business provides products and solutions that promote energy efficiency, enhance household and commercial comfort, and protect food quality and sustainability through heating, air conditioning and refrigeration technology, as well as a broad range of tools and appliance solutions.

The **Climate Technologies** segment provides products, services and solutions for all areas of the climate control industry, including residential heating and cooling, commercial air conditioning, commercial and industrial refrigeration, and cold chain management. Products include compressors, temperature sensors and controls, thermostats, flow controls, and stationary and mobile remote monitoring technologies and services that enable homeowners and businesses to better manage their heating, air conditioning and refrigeration systems for improved control and comfort, and lower energy costs.

The **Tools & Home Products** segment offers tools for professionals and homeowners and appliance solutions. Products include professional pipe-working tools, electrical and utility tools, residential and commercial food waste disposers, and wet-dry vacuums.

The principal distribution method for each segment is direct sales forces, although the Company also uses independent sales representatives and distributors. Due to its global presence, certain of the Company's international operations are subject to risks including the stability of governments and business conditions in foreign countries which could result in adverse changes in exchange rates, changes in regulations or disruption of operations.

The primary income measure used for assessing segment performance and making operating decisions is earnings before interest and income taxes. Intersegment selling prices approximate market prices. Accounting method differences between segment reporting and the consolidated financial statements are primarily management fees allocated to segments based on a percentage of sales and the accounting for pension and other retirement plans. Corporate and other includes corporate operations, stock compensation expense, acquisition related costs and other items. Corporate assets are primarily comprised of cash and equivalents, investments and certain fixed assets. Summarized below is information about the Company's operations by business segment and by geography.

Business Segments

	Sales			Earnings			Total Assets		
	2016	2017	2018	2016	2017	2018	2016	2017	2018
Automation Solutions	\$ 8,977	9,418	11,441	\$ 1,456	1,522	1,886	\$ 8,759	12,581	13,720
Climate Technologies	3,944	4,212	4,454	902	975	972	2,489	2,547	2,936
Tools & Home Products	1,611	1,645	1,528	384	383	380	809	830	1,560
Commercial & Residential Solutions	5,555	5,857	5,982	1,286	1,358	1,352	3,298	3,377	4,496
Differences in accounting methods				189	148	218			
Corporate and other (a)				(427)	(528)	(630)	9,675	3,631	2,174
Eliminations/Interest	(10)	(11)	(15)	(188)	(165)	(159)			
Total	\$ 14,522	15,264	17,408	\$ 2,316	2,335	2,667	\$ 21,732	19,589	20,390

(a) Corporate and other in 2018 includes higher stock compensation expense of \$106 and first year pretax acquisition accounting charges of \$79 (\$58 after-tax, \$ 0.09 per share). The increase in 2017 compared to 2016 was due to valves & controls first year pretax acquisition accounting charges related to inventory and backlog of \$93 (\$65 after-tax, \$0.10 per share). See Note 3. Assets held-for-sale of \$6,030 are included in Corporate and other for 2016. See Note 4.

Automation Solutions sales by major product offering are summarized below:

	2016	2017	2018
Measurement & Analytical Instrumentation	\$ 3,137	3,070	3,604
Valves, Actuators & Regulators	2,137	2,668	3,769
Industrial Solutions	1,621	1,680	1,947
Process Control Systems & Solutions	2,082	2,000	2,121
Total	\$ 8,977	9,418	11,441

	Depreciation and Amortization			Capital Expenditures		
	2016	2017	2018	2016	2017	2018
Automation Solutions	\$ 330	400	507	\$ 246	234	295
Climate Technologies	150	156	171	133	182	209
Tools & Home Products	44	45	44	44	45	64
Commercial & Residential Solutions	194	201	215	177	227	273
Corporate and other	44	35	36	24	15	49
Total	\$ 568	636	758	\$ 447	476	617

Geographic Information

	Sales by Destination			Property, Plant and Equipment		
	2016	2017	2018	2016	2017	2018
United States and Canada	\$ 7,505	7,854	8,620	\$ 1,780	1,852	2,036
Asia	2,926	3,253	3,936	459	525	547
Europe	2,300	2,434	2,898	435	626	676
Latin America	834	767	849	203	203	198
Middle East/Africa	957	956	1,105	54	115	105
Total	\$ 14,522	15,264	17,408	\$ 2,931	3,321	3,562

Sales in the U.S. were \$7,939 , \$7,273 and \$6,940 for 2018 , 2017 and 2016 , respectively, while Asia includes sales in China of \$1,955 , \$1,540 and \$1,320 in those years. Assets located in the U.S. were \$2,027 in 2018 , \$1,840 in 2017 and \$1,772 in 2016 .

(19) OTHER FINANCIAL DATA

Items reported in earnings from continuing operations during the years ended September 30 included the following:

	2016	2017	2018
Research and development expense	\$ 320	340	436
Depreciation expense	\$ 391	414	444
Rent expense	\$ 273	289	279

The Company leases certain facilities, transportation and office equipment, and various other items under operating lease agreements. Minimum annual rentals under noncancelable long-term leases, exclusive of maintenance, taxes, insurance and other operating costs, will approximate \$204 in 2019 , \$146 in 2020 , \$97 in 2021 , \$66 in 2022 and \$41 in 2023 .

Items reported in other noncurrent assets included the following:

	2017	2018
Pension assets	\$ 197	591
Asbestos-related insurance receivables	\$ 133	124
Deferred income taxes	\$ 86	74

Items reported in accrued expenses included the following:

	2017	2018
Employee compensation	\$ 531	629
Customer advanced payments	\$ 505	453
Product warranty	\$ 120	124

Other liabilities are summarized as follows:

	2017	2018
Pension and postretirement liabilities	\$ 664	625
Deferred income taxes	425	484
Asbestos litigation	340	334
Other	551	656
Total	\$ 1,980	2,099

Other operating cash flow is comprised of the following:

	2016	2017	2018
Pension expense	\$ 95	127	49
Stock compensation expense	145	110	216
Transition impact of Tax Act	—	—	(189)
Deferred income taxes and other	45	27	(22)
Total	<u>\$ 285</u>	<u>264</u>	<u>54</u>

(20) QUARTERLY FINANCIAL INFORMATION (UNAUDITED)

	First Quarter		Second Quarter		Third Quarter		Fourth Quarter		Full Year	
	2017	2018	2017	2018	2017	2018	2017	2018	2017	2018
Net sales	\$ 3,216	3,816	3,574	4,248	4,039	4,456	4,435	4,888	15,264	17,408
Gross profit	\$ 1,365	1,621	1,557	1,825	1,678	1,949	1,804	2,065	6,404	7,460
Earnings from continuing operations common stockholders	\$ 364	392	376	482	407	712	496	617	1,643	2,203
Net earnings common stockholders	\$ 309	392	292	482	413	712	504	617	1,518	2,203
Earnings per common share from continuing operations:										
Basic	\$ 0.56	0.61	0.58	0.76	0.63	1.13	0.77	0.98	2.54	3.48
Diluted	\$ 0.56	0.61	0.58	0.76	0.63	1.12	0.77	0.97	2.54	3.46
Net earnings per common share:										
Basic	\$ 0.48	0.61	0.45	0.76	0.64	1.13	0.78	0.98	2.35	3.48
Diluted	\$ 0.48	0.61	0.45	0.76	0.64	1.12	0.78	0.97	2.35	3.46
Dividends per common share	\$ 0.48	0.485	0.48	0.485	0.48	0.485	0.48	0.485	1.92	1.94

Earnings per share are computed independently each period; as a result, the quarterly amounts may not sum to the calculated annual figure.

Emerson Electric Co. common stock (symbol EMR) is listed on the New York Stock Exchange and the Chicago Stock Exchange.

Earnings from continuing operations and diluted earnings per share include an income tax benefit of \$43 (\$0.07 per share) and \$150 (\$0.24 per share) in the first quarter and third quarter of 2018, respectively, from the impacts of U.S. tax reform. The full-year impact for fiscal 2018 was an income tax benefit of \$189 (\$0.30 per share). See Note 14.

Report of Independent Registered Public Accounting Firm

To the Stockholders and Board of Directors
Emerson Electric Co.:

Opinions on the Consolidated Financial Statements and Internal Control Over Financial Reporting

We have audited the accompanying consolidated balance sheets of Emerson Electric Co. and subsidiaries (the Company) as of September 30, 2018 and 2017, the related consolidated statements of earnings, comprehensive income, equity, and cash flows for each of the years in the three-year period ended September 30, 2018, and the related notes (collectively, the consolidated financial statements). We also have audited the Company's internal control over financial reporting as of September 30, 2018, based on criteria established in *Internal Control - Integrated Framework (2013)* issued by the Committee of Sponsoring Organizations of the Treadway Commission.

In our opinion, the consolidated financial statements referred to above present fairly, in all material respects, the financial position of the Company as of September 30, 2018 and 2017, and the results of its operations and its cash flows for each of the years in the three-year period ended September 30, 2018, in conformity with U.S. generally accepted accounting principles. Also in our opinion, the Company maintained, in all material respects, effective internal control over financial reporting as of September 30, 2018, based on criteria established in *Internal Control - Integrated Framework (2013)* issued by the Committee of Sponsoring Organizations of the Treadway Commission.

The Company acquired the tools and test equipment business and Aventics during 2018, and management excluded from its assessment of the effectiveness of the Company's internal control over financial reporting as of September 30, 2018, the tools and test equipment business' and Aventics' internal control over financial reporting associated with total assets and revenues of 9 percent and 1 percent, respectively, included in the consolidated financial statements of the Company as of and for the year ended September 30, 2018. Our audit of internal control over financial reporting of the Company also excluded an evaluation of the internal control over financial reporting of the tools and test equipment business and Aventics.

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 an opinion on the Company's consolidated financial statements and an opinion 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 (1) pertain to the maintenance of records that, in reasonable detail, accurately and fairly reflect the transactions and dispositions of the assets of the company; (2) 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 (3) 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/ KPMG LLP

We or our predecessor firms have served as the Company's auditor since 1938.

St. Louis, Missouri
November 19, 2018

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

None.

ITEM 9A - CONTROLS AND PROCEDURES

The Company maintains a system of disclosure controls and procedures which is designed to ensure that information required to be disclosed by the Company in the reports filed or submitted under the Securities Exchange Act of 1934 is recorded, processed, summarized and reported within the time periods specified in the SEC's rules and forms and is accumulated and communicated to management, including the Company's certifying officers, as appropriate to allow timely decisions regarding required disclosure. Based on an evaluation performed, the Company's certifying officers have concluded that the disclosure controls and procedures were effective as of September 30, 2018 to provide reasonable assurance of achieving these objectives.

Notwithstanding the foregoing, there can be no assurance that the Company's disclosure controls and procedures will detect or uncover all failures of persons within the Company and its consolidated subsidiaries to report material information otherwise required to be set forth in the Company's reports. There was no change in the Company's internal control over financial reporting during the quarter ended September 30, 2018, that has materially affected, or is reasonably likely to materially affect, the Company's internal control over financial reporting.

In the first quarter of fiscal 2019, the Company successfully completed upgrades to its Oracle enterprise resource planning system across a majority of its businesses.

Management's report on internal control over financial reporting, and the related report of the Company's auditor, KPMG LLP, an independent registered public accounting firm, set forth in Item 7 and Item 8, respectively, of this Annual Report on Form 10-K, are hereby incorporated by reference.

ITEM 9B - OTHER INFORMATION

None.

PART III

ITEM 10 - DIRECTORS, EXECUTIVE OFFICERS AND CORPORATE GOVERNANCE

Information regarding nominees and directors appearing under "Proxy Item No. 1: Election of Directors" in the Emerson Electric Co. Notice of Annual Meeting of Shareholders and Proxy Statement for the February 2019 annual shareholders' meeting (the "2019 Proxy Statement") is hereby incorporated by reference. Information regarding

executive officers is set forth in Part I of this report. Information appearing under "Section 16(a) Beneficial Ownership Reporting Compliance" in the 2019 Proxy Statement is hereby incorporated by reference. Information regarding the Audit Committee and Audit Committee Financial Expert appearing under "Board and Committee Operations - Board and Corporate Governance - Committees of Our Board of Directors," "Board and Committee Operations - Corporate Governance and Nominating Committee - Nomination Process" and "- Proxy Access" in the 2019 Proxy Statement is hereby incorporated by reference.

The Company has adopted a Code of Ethics that applies to the Company's Chief Executive Officer, Chief Financial Officer and Chief Accounting Officer; has posted such Code of Ethics on its website; and intends to satisfy the disclosure requirement under Item 5.05 of Form 8-K by posting such information on its website. The Company has adopted Charters for its Audit Committee, Compensation Committee, and Corporate Governance and Nominating Committee and a Code of Business Ethics for directors, officers and employees, which are available on its website and in print to any stockholder who requests them. The Company has also adopted Corporate Governance Principles and Practices, which are available on its website and in print to any stockholder who requests them. The Corporate Governance section of the Company's website may be accessed as follows: www.Emerson.com, Investors, Corporate Governance.

ITEM 11 - EXECUTIVE COMPENSATION

Information appearing under "Executive Compensation" (including the information set forth under "Compensation Discussion and Analysis"), "Compensation Tables," "Board and Committee Operations—Corporate Governance and Nominating Committee—Director Compensation," "Board and Committee Operations—Compensation Committee" (including, but not limited to, the information set forth under "Role of Executive Officers and the Compensation Consultant", "Report of the Compensation Committee" and "Compensation Committee Interlocks and Insider Participation") in the 2019 Proxy Statement is hereby incorporated by reference.

The information contained in "Report of the Compensation Committee" shall not be deemed to be filed with the SEC or subject to the liabilities of Section 18 of the Securities Exchange Act of 1934 (the "Exchange Act"), except to the extent that the Company specifically incorporates such information into future filings under the Securities Act of 1933 or the Exchange Act.

ITEM 12 - SECURITY OWNERSHIP OF CERTAIN BENEFICIAL OWNERS AND MANAGEMENT AND RELATED STOCKHOLDER MATTERS

The information regarding beneficial ownership of shares by nominees and continuing directors, named executive officers, five percent beneficial owners, and by all directors and executive officers as a group appearing under "Ownership of Emerson Equity Securities" in the 2019 Proxy Statement is hereby incorporated by reference.

The following table sets forth aggregate information regarding the Company's equity compensation plans as of September 30, 2018 :

<u>Plan Category</u>	Number of Securities to be Issued upon Exercise of Outstanding Options, Warrants and Rights	Weighted-Average Exercise Price of Outstanding Options, Warrants and Rights	Number of Securities Remaining Available for Future Issuance under Equity Compensation Plans (Excluding Securities Reflected in Column (a))
	(a)	(b)	(c)
Equity compensation plans approved by security holders (1)	14,980,377	\$56.37	22,020,008
Equity compensation plans not approved by security holders	—	—	—
Total	<u>14,980,377</u>	<u>\$56.37</u>	<u>22,020,008</u>

(1) Includes the Stock Option and Incentive Shares Plans previously approved by the Company's security holders. Shares included in column (a) assume the maximum payouts, where applicable, and are as follows: (i) 7,800,902 shares reserved for outstanding stock option awards, (ii) 2,261,700 shares reserved for performance share awards granted in 2018, (iii) 2,375,313 shares reserved for performance share awards granted in 2017,

(iv) 2,155,963 shares reserved for performance share awards granted in 2016 and (v) 386,499 shares reserved for outstanding restricted stock unit awards. As provided by the Company's Incentive Shares Plans, performance shares awards represent a commitment to issue such shares without cash payment by the employee, contingent upon achievement of the performance objectives and continued service by the employee.

The price in column (b) represents the weighted-average exercise price for outstanding options. Included in column (c) are shares remaining available for award under previously approved plans as follows: (i) 11,560,488 under the 2011 Stock Option Plan, (ii) 9,674,500 under the 2015 Incentive Shares Plan, (iii) 625,055 under the 2006 Incentive Shares Plan, and (iv) 159,965 under the Restricted Stock Plan for Non-Management Directors.

Information regarding stock option plans and incentive shares plans is set forth in Note 15.

ITEM 13 - CERTAIN RELATIONSHIPS AND RELATED TRANSACTIONS, AND DIRECTOR INDEPENDENCE

Information appearing under "Board and Committee Operations—Board and Corporate Governance—Review, Approval or Ratification of Transactions with Related Persons," "—Certain Business Relationships and Related Party Transactions" and "—Director Independence" in the 2019 Proxy Statement is hereby incorporated by reference.

ITEM 14 - PRINCIPAL ACCOUNTANT FEES AND SERVICES

Information appearing under "Board and Committee Operations—Audit Committee—Fees Paid to KPMG LLP" in the 2019 Proxy Statement is hereby incorporated by reference.

PART IV

ITEM 15 - EXHIBITS AND FINANCIAL STATEMENT SCHEDULES

A) Documents filed as a part of this report:

1. The consolidated financial statements and accompanying notes of the Company and subsidiaries and the report thereon of KPMG LLP set forth in Item 8 of this Annual Report on Form 10-K.
2. Financial Statement Schedules - All schedules are omitted because they are not required, not applicable or the required information is provided in the financial statements or notes thereto contained in this Annual Report on Form 10-K.
3. Exhibits (Listed by numbers corresponding to the Exhibit Table of Item 601 in Regulation S-K).

3(a) [Restated Articles of Incorporation of Emerson Electric Co.](#), incorporated by reference to Emerson Electric Co. Form 10-Q for the quarter ended March 31, 2001, File No. 1-278, Exhibit 3(a); [Termination of Designated Shares of Stock and Certificate of Designation, Preferences and Rights of Series B Junior Participating Preferred Stock](#), incorporated by reference to Emerson Electric Co. 1998 Form 10-K, File No. 1-278, Exhibit 3(a).

3(b) [Bylaws of Emerson Electric Co.](#), as amended through June 5, 2018, incorporated by reference to the Company's Form 8-K dated June 5, 2018, filed on June 11, 2018, File No. 1-278, Exhibit 3.1.

4(a) [Indenture dated as of December 10, 1998, between Emerson Electric Co. and The Bank of New York, Trustee](#), incorporated by reference to Emerson Electric Co. 1998 Form 10-K, File No. 1-278, Exhibit 4(b).

No other long-term debt instruments are filed since the total amount of securities authorized under any such instrument does not exceed 10 percent of the total assets of Emerson Electric Co. and its subsidiaries on a consolidated basis. Emerson Electric Co. agrees to furnish a copy of such instruments to the SEC upon request.

10(a)* [Third Amendment to the Emerson Electric Co. 1993 Incentive Shares Plan, as restated](#), incorporated by reference to Emerson Electric Co. 1996 Form 10-K, File No. 1-278, Exhibit 10(g).

- and [Fourth Amendment thereto](#), incorporated by reference to Emerson Electric Co. 2001 Form 10-K, File No. 1-278, Exhibit 10(d).
- 10(b)* [Amended and Restated Emerson Electric Co. Continuing Compensation Plan for Non-Management Directors](#), incorporated by reference to Emerson Electric Co. 2007 Form 10-K, File No. 1-278, Exhibit 10(c).
- 10(c)* [Amended and Restated Deferred Compensation Plan for Non-Employee Directors and Forms of Payment Election Form, Initial Notice of Election and Notice of Election Change](#), incorporated by reference to Emerson Electric Co. 2007 Form 10-K, File No. 1-278, Exhibit 10(d).
- 10(d)* [First Amendment to the Emerson Electric Co. Supplemental Executive Retirement Plan](#), incorporated by reference to Emerson Electric Co. 1999 Form 10-K, File No. 1-278, Exhibit 10(h), and [Form of Change of Control Election](#), incorporated by reference to Emerson Electric Co. Form 8-K dated October 1, 2004, Exhibit 10.9 (applicable only with respect to benefits vested as of December 31, 2004).
- 10(e)* [Amended and Restated Emerson Electric Co. Pension Restoration Plan dated October 6, 2015](#), incorporated by reference to Emerson Electric Co. 2015 Form 10-K, File No. 1-278, Exhibit 10(e); [Forms of Participation Award Letter, Acceptance of Award and Benefit Election Forms \(applicable only with respect to benefits after January 1, 2005\)](#), incorporated by reference to Emerson Electric Co. 2007 Form 10-K, File No. 1-278, Exhibit 10(f); and Lump Sum Distribution Election Forms.
- 10(f)* [Fifth Amendment to the Supplemental Executive Savings Investment Plan](#), incorporated by reference to Emerson Electric Co. Form 10-Q for the quarter ended March 31, 1999, File No. 1-278, Exhibit 10(j), and [Form of Participation Agreement and Form of Annual Election](#), incorporated by reference to Emerson Electric Co. Form 8-K filed October 1, 2004, Exhibit 10.8 (applicable only with respect to benefits vested as of December 31, 2004).
- 10(g)* [Amended and Restated Emerson Electric Co. Savings Investment Restoration Plan and Forms of Participation Agreement, Annual Election Form and Payment Election Form \(applicable only with respect to benefits after January 1, 2005\)](#), incorporated by reference to Emerson Electric Co. 2007 Form 10-K, File No. 1-278, Exhibit 10(h), and [First Amendment to Emerson Electric Co. Savings Investment Restoration Plan](#), incorporated by reference to Emerson Electric Co. Form 10-Q for the quarter ended March 31, 2008, File No. 1-278, Exhibit 10.1.
- 10(h)* [Amended and Restated Emerson Electric Co. Annual Incentive Plan and Form of Acceptance of Award](#), incorporated by reference to Emerson Electric Co. 2007 Form 10-K, File No. 1-278, Exhibit 10(i).
- 10(i)* [1997 Incentive Shares Plan](#), incorporated by reference to Emerson Electric Co. 1997 Proxy Statement dated December 6, 1996, File No. 1-278, Exhibit A, and [First Amendment thereto](#), incorporated by reference to Emerson Electric Co. 2001 Form 10-K, File No. 1-278, Exhibit 10(j), [Amendment for 409A Compliance](#), incorporated by reference to Emerson Electric Co. 2007 Form 10-K, File No. 1-278, Exhibit 10(j), [Form of Performance Share Award Certificate, Forms of Acceptance of Award and Change of Control Election](#), incorporated by reference to Emerson Electric Co. Form 8-K filed October 1, 2004, Exhibit 10.5, and [Form of Restricted Shares Award Agreement](#), incorporated by reference to Emerson Electric Co. Form 8-K filed October 1, 2004, Exhibit 10.6.
- 10(j)* [1998 Stock Option Plan](#), incorporated by reference to Emerson Electric Co. 1998 Proxy Statement dated December 12, 1997, File No. 1-278, Appendix A, and [Amendment No. 1 thereto](#), incorporated by reference to Emerson Electric Co. 2000 Form 10-K, File No. 1-278, Exhibit 10(l), [Form of Notice of Grant of Stock Options and Option Agreement and Form of Incentive Stock Option Agreement](#), incorporated by reference to Emerson Electric Co. Form 8-K filed October 1, 2004, Exhibit 10.1, and [Form of Notice of Grant of Stock Options and Option Agreement and Form of Nonqualified Stock Option Agreement](#), incorporated by reference to Emerson Electric Co. Form 8-K filed October 1, 2004, Exhibit 10.2.

- 10(k)* [2001 Stock Option Plan](#), incorporated by reference to Emerson Electric Co. 2002 Proxy Statement dated December 12, 2001, File No. 1-278, Appendix A, [Form of Notice of Grant of Stock Options and Option Agreement and Form of Incentive Stock Option Agreement](#), incorporated by reference to Emerson Electric Co. Form 8-K filed October 1, 2004, Exhibit 10.3 (used on or prior to September 30, 2011), [Forms of Notice of Grant of Stock Options, Option Agreement and Incentive Stock Option Agreement](#), incorporated by reference to Emerson Electric Co. Form 10-Q for the quarter ended December 31, 2011, File No. 1-278, Exhibit 10.1 (used after September 30, 2011), [Form of Notice of Grant of Stock Options and Option Agreement and Form of Nonqualified Stock Option Agreement](#), incorporated by reference to Emerson Electric Co. Form 8-K filed October 1, 2004, Exhibit 10.4 (used on or prior to September 30, 2011), [Forms of Notice of Grant of Stock Options, Option Agreement and Nonqualified Stock Option Agreement](#), incorporated by reference to Emerson Electric Co. Form 10-Q for the quarter ended December 31, 2011, File No. 1-278, Exhibit 10.2 (used after September 30, 2011).
- 10(l)* [Emerson Electric Co. Description of Split Dollar Life Insurance Program Transition](#), incorporated by reference to Emerson Electric Co. Form 8-K filed September 2, 2005, Exhibit 10.1.
- 10(m)* [Amended and Restated Restricted Stock Plan for Non-Management Directors](#), incorporated by reference to Emerson Electric Co. Form 10-Q for the quarter ended December 31, 2009, File No. 1-278, Exhibit 10.1, [Form of Restricted Stock Award Letter under the Emerson Electric Co. Restricted Stock Plan for Non-Management Directors](#), incorporated by reference to Emerson Electric Co. Form 8-K filed February 1, 2005, Exhibit 10.2, and [Form of Restricted Stock Unit Award Letter under the Emerson Electric Co. Restricted Stock Plan for Non-Management Directors](#), incorporated by reference to Emerson Electric Co. Form 10-Q for the quarter ended December 31, 2009, File No. 1-278, Exhibit 10.1.
- 10(n)* [Description of Non-Management Director Compensation](#), incorporated by reference to Emerson Electric Co. Form 10-K filed November 20, 2017, Exhibit 10(n).
- 10(o)* [Description of Named Executive Officer Compensation](#), incorporated by reference to Emerson Electric Co. Form 10-K filed November 20, 2017, Exhibit 10(o).
- 10(p)* [Emerson Electric Co. 2006 Incentive Shares Plan](#), incorporated by reference to Emerson Electric Co. 2006 Proxy Statement dated December 16, 2005, Appendix C, [Amendment for 409A Compliance](#), incorporated by reference to Emerson Electric Co. 2007 Form 10-K, File No. 1-278, Exhibit 10(q), [Forms of Performance Shares Award Certificate and Acceptance of Award \(used on or prior to September 30, 2009\) and Restricted Shares Award Agreement \(used on or prior to September 30, 2011\)](#), incorporated by reference to Emerson Electric Co. 2007 Form 10-K, File No. 1-278, Exhibit 10(q), [Amendment to Emerson Electric Co. 2006 Incentive Shares Plan](#), incorporated by reference to Emerson Electric Co. Form 10-Q for the quarter ended June 30, 2008, File No. 1-278, Exhibit 10.1, [Forms of Performance Shares Award Certificate, Acceptance of Award and 2010 Performance Shares Program Award Summary](#), incorporated by reference to Emerson Electric Co. Form 10-Q for the quarter ended December 31, 2009 (used after September 30, 2009 and on or prior to September 30, 2011), File No. 1-278, Exhibit 10.2, [Forms of Performance Shares Award Certificate and Acceptance of Award](#), incorporated by reference to Emerson Electric Co. Form 10-Q for the quarter ended December 31, 2011, File No. 1-278, Exhibit 10.3 (used after September 30, 2011), and [Form of Restricted Shares Award Agreement](#), incorporated by reference to Emerson Electric Co. Form 10-Q for the quarter ended December 31, 2011, File No. 1-278, Exhibit 10.4 (used after September 30, 2011).
- 10(q) [Credit Agreement dated as of May 23, 2018](#), incorporated by reference to Emerson Electric Co. Form 8-K dated May 23, 2018 and filed May 29, 2018, File No. 1-278, Exhibit 10.1.
- 10(r)* [2011 Stock Option Plan](#), incorporated by reference to Emerson Electric Co. 2011 Proxy Statement dated December 10, 2010, File No. 1-278, Appendix B, 2011 [Stock Option Plan as Amended and Restated effective October 1, 2012](#), incorporated by reference to Emerson Electric Co. 2012 Form 10-K, File No. 1-278, Exhibit 10(r), [Forms of Notice of Grant of Stock Options, Option Agreement and Incentive Stock Option Agreement under the 2011 Stock Option Plan](#), incorporated by reference to Emerson Electric Co. Form 10-Q for the quarter ended March 31, 2012, File No.

- 1-278, Exhibit 10.1 and [Forms of Notice of Grant of Stock Options, Option Agreement and Nonqualified Stock Option Agreement under the 2011 Stock Option Plan](#), incorporated by reference to Emerson Electric Co. Form 10-Q for the quarter ended March 31, 2012, File No. 1-278, Exhibit 10.2.
- 10(s)* [Emerson Electric Co. 2015 Incentive Shares Plan](#), incorporated by reference to Emerson Electric Co. 2015 Proxy Statement dated December 12, 2014, Appendix B, [Forms of Performance Shares Award Certificate and Acceptance of Award, Performance Shares Program Award Summary and Form of Restricted Shares Award Agreement](#), incorporated by reference to Emerson Electric Co. 2015 Form 10-K, File No. 1-278, Exhibit 10(u).
- 10(t)* [Letter Agreement effective as of January 15, 2014 between Emerson Electric Co. and Edgar M. Purvis](#), incorporated by reference to Emerson Electric Co. 2015 Form 10-K, File No. 1-278, Exhibit 10(v).
- 10(u)* [Letter Agreement dated December 7, 2015 by and between Emerson Electric Co. and Charles A. Peters](#), incorporated by reference to Emerson Electric Co. form 10-Q for the quarter ended December 31, 2015, Exhibit 10.1.
- 10(v)* [Letter Agreement effective as of January 15, 2014 between Emerson Electric Co. and Steven J. Pelch](#), incorporated by reference to Emerson Electric Co. 2016 Form 10-K, File No. 1-278, Exhibit 10(v).
- 10(w) [Transaction Agreement dated as of July 29, 2016 among Emerson Electric Co., Cortes NP Holdings, LLC, Cortes NP Acquisition Corporation, ASCO Power Grp, LLC and Cortes NP JV Holdings, LLC](#), incorporated by reference to Emerson Electric Co. 2016 Form 10-K, File No. 1-278, Exhibit 10(w).
- 10(x) [Share Purchase Agreement by and between Emerson Electric Co. and Pentair plc dated August 18, 2016](#), incorporated by reference to Emerson Electric Co. 2016 Form 10-K, File No. 1-278, Exhibit 10(x).
- 10(y)* [Letter Agreement, dated November 8, 2017](#), by and between Emerson Electric Co. and Edgar M. Purvis, incorporated by reference to the Emerson Electric Co. Form 8-K filed November 14, 2017, File No. 1-278, Exhibit filed 10.1.
- 10(z)* [Emerson Electric Co. Savings Investment Restoration Plan II](#), incorporated by reference to the Emerson Electric Co. Form 10-Q for the quarter ended June 30, 2018, File No. 1-278, Exhibit filed 10.1.
- 10(aa)* [Letter Agreement effective as of October 2, 2018](#), by and between Emerson Electric Co. and Edward L. Monser, incorporated by reference to the Emerson Electric Co. Form 8-K filed October 5, 2018, File No. 1-278, Exhibit filed 10.1.
- 21 [Subsidiaries of Emerson Electric Co.](#)
- 23 [Consent of Independent Registered Public Accounting Firm](#)
- 24 [Power of Attorney](#)
- 31 [Certifications pursuant to Exchange Act Rule 13a-14\(a\)](#)
- 32 [Certifications pursuant to Exchange Act Rule 13a-14\(b\) and 18 U.S.C. Section 1350](#)
- 99.1 [Description of Capital Stock](#) incorporated by reference to Emerson Electric Co. 2017 Form 10-K, File No. 1-278, Exhibit 99.1.
- 101 Attached as Exhibit 101 to this report are the following documents formatted in XBRL (Extensible Business Reporting Language): (i) Consolidated Statements of Earnings for the years ended

September 30, 2016 , 2017 and 2018 , (ii) Consolidated Statements of Comprehensive Income for the years ended September 30, 2016 , 2017 , and 2018
(iii) Consolidated Balance Sheets at September 30, 2017 and 2018 , (iv) Consolidated Statements of Equity for the years ended September 30, 2016 , 2017
and 2018 , (v) Consolidated Statements of Cash Flows for the years ended September 30, 2016 , 2017 and 2018 , and (vi) Notes to Consolidated Financial
Statements for the year ended September 30, 2018 .

* Management contract or compensatory plan.

SIGNATURES

Pursuant to the requirements of Section 13 or 15(d) of the Securities Exchange Act of 1934, the registrant has duly caused this report to be signed on its behalf by the undersigned, thereunto duly authorized.

EMERSON ELECTRIC CO.

By /s/ F. J. Dellaquila

F. J. Dellaquila
Senior Executive Vice President and
Chief Financial Officer
November 19, 2018

Pursuant to the requirements of the Securities Exchange Act of 1934, this report has been signed below on November 19, 2018, by the following persons on behalf of the registrant and in the capacities indicated.

<u>Signature</u>	<u>Title</u>
<u>/s/ D. N. Farr</u> D. N. Farr	Chairman of the Board and Chief Executive Officer
<u>/s/ F. J. Dellaquila</u> F. J. Dellaquila	Senior Executive Vice President and Chief Financial Officer
<u>/s/ M. J. Baughman</u> M. J. Baughman	Vice President, Controller and Chief Accounting Officer
<u>*</u> C. A. H. Boersig	Director
<u>*</u> J. B. Bolten	Director
<u>*</u> G. A. Flach	Director
<u>*</u> A. F. Golden	Director
<u>*</u> C. Kandle	Director
<u>*</u> L. Lee	Director

*

M. S. Levatich

Director

*

J. S. Turley

Director

* By /s/ F. J. Dellaquila

F. J. Dellaquila

Attorney-in-Fact

**Subsidiaries and Affiliates of Emerson Electric Co.
September 30, 2018**

<u>LEGAL NAME</u>	<u>JURISDICTION OF INCORPORATION</u>
Appleton Holding Corp.	Delaware
EGS Electrical Group Canada Ltd.	Ontario
Easy Heat Ltd.	Ontario
ASCO Numatics Holding, Inc.	Delaware
Branson Ultrasonic S.A.	Switzerland
Bristol, Inc.	Delaware
Energy Solutions International SAS	Colombia
Energy Solutions International Sub, LLC	Delaware
Energy Solutions International GP, LLC	Pennsylvania
Energy Solutions International Ltd.	New Brunswick
Energy Solutions International Ltd.	United Kingdom
Energy Solutions International (India) Private Limited	India
California Emerson LLC	Delaware
Computational Systems, Incorporated	Tennessee
Cooper-Atkins Corporation	Connecticut
Cooper-Atkins Pte. Ltd.	Singapore
Control Products, Inc.	Minnesota
Daniel Industries, Inc.	Delaware
Daniel Automation Company	Delaware
Daniel Industrial, Inc.	Delaware
Daniel International Limited	United Kingdom
Daniel Europe Limited	United Kingdom
Daniel Industries Limited	United Kingdom
Spectra-Tek Holdings Limited	United Kingdom
Spectra-Tek UK Limited	United Kingdom
Daniel Measurement Solutions Private Limited	India
Spectra-Tek International Limited	United Kingdom
Greenfield (UK) Limited	United Kingdom
Daniel Measurement and Control, Inc.	Delaware
Daniel Industries Canada Inc.	Canada
Metco Services Venezuela, C.A.	Venezuela
Danmasa S.A. de C.V.	Mexico
Emerson Process Management Valve Automation, Inc.	Delaware
Bettis Canada Ltd.	Canada
Bettis Holdings Limited	United Kingdom
Bettis UK Limited	United Kingdom
RPP, LLC	Massachusetts
Hytork International Ltd.	United Kingdom
EECO, Inc.	Delaware
Apple JV Holding Corp.	Delaware
Appleton Grp LLC	Delaware
Appleton Electric LLC	Delaware
Appleton Electric, S.A. de C.V.	Mexico
EGS Comercializadora Mexico, S. de R.L. de C.V.	Mexico
Nutsteel DHC B.V.	Netherlands
Nutsteel Indústria Metalúrgica Ltda	Brazil
Appleton Holding Sarl	France

ATX SAS	France
Easy Heat Europe SAS	France
EGS Mexico S. de R.L. de C.V.	Mexico
EGS Private Ltd.	Singapore
Emerson Hazardous Electrical Equipment (Shanghai) Co., Ltd.	China
GSEG LLC	Delaware
Easy Heat, Inc.	Delaware
Emersub CV, Inc.	Delaware
Flow Control US Holding Corporation	Delaware
Emerson Automation Solutions Final Control France S.C.A.	France
Vulsub II, LLC	Texas
Emerson Automation Solutions Final Control Sales Holding, LLC	Delaware
Emerson Automation Solutions Final Control, LLC	Delaware
FC QSF, LLC	Delaware
Keystone Asia Pacific Pty Limited	Australia
Keystone Canada Co.	Canada
Keystone Germany Holdings Corp.	Delaware
Chemat GmbH Armaturen fur Industrie-und Nukkeranlage	Germany
Emerson Automation Solutions Final Control de Mexico, S.A. de C.V.	Mexico
The J.R. Clarkson Company LLC	Nevada
Crosby Valve, LLC	Nevada
Emerson Automation Solutions Final Control US LP	Delaware
TV&C GP Holding, LLC	Nevada
Vulsub Chile Holding, LLC	Delaware
Vulsub Chile SpA	Chile
Vulsub Holdings A, LLC	Delaware
Emerson Automation Solutions Final Control (Taiwan) Ltd.	Taiwan
Emerson Automation Solutions Final Control (Thailand) Ltd.	Thailand
Vulsub VZ, C.A.	Venezuela
Vulsub Holdings B, LLC	Delaware
Emerson Automation Solutions Final Control Hong Kong Limited	Hong Kong
Emerson Automation Solutions Final Control (Beijing) Co., Ltd.	China
Keystone Valve (Korea) LLC	Korea
Vulsub Holdings D, LLC	Delaware
Vulsub Property Holding, LLC	Delaware
Emerson Climate Technologies, Inc.	Delaware
Copeland Access +, Inc.	Delaware
Copeland Corporation LLC	Delaware
Copeland de Mexico, S.A. de C.V.	Mexico
Emerson Climate Technologies (India) Private Limited	India
Copeland Redevelopment Corporation	Missouri
CR Compressors LLC	Delaware
Dixell North America, Inc.	Delaware
Emerson Climate Technologies Retail Solutions, Inc.	Delaware
Emerson Climate Services, LLC	Delaware
Scroll Compressors LLC	Delaware
Scroll Mexico LLC	Delaware
Emerson Electric (U.S.) Holding Corporation	Delaware
Automatic Switch Company	Delaware
ASC Investments, Inc.	Delaware
Asco AB	Sweden
Asco Controls AG	Switzerland
Asco Controls B.V.	Netherlands
ASCO/JOUCOMATIC s.r.o.	Czech Republic
Asco Joucomatic ZA B.V.	Netherlands
Asco Magnesszelep Kft.	Hungary
Asco Numatics Sp. z o.o.	Poland
ASCO Japan Co., Ltd.	Japan

ASCO, L.P.	Delaware
Emerson (Taiwan) Limited	Taiwan
Ascomatica S.A. de C.V.	Mexico
Ascomation Pty. Ltd.	Australia
Ascomation (NZ) Ltd.	New Zealand
ASCO Numatics (India) Private Limited	India
Ascotech, S.A. de C.V.	Mexico
Ascoval Industria e Comercio Ltda	Brazil
Branson Ultrasonics Corporation	Delaware
Branson Korea Co., Ltd.	Korea
Branson Ultrasonidos S.A.E.	Spain
Branson Ultrasons SAS	France
Emerson Climate Technologies GmbH	Germany
Emerson Climate Technologies Limited	United Kingdom
Emerson Climate Technologies Refrigeration S.A.	Belgium
Emerson Climate Technologies S.A.	Spain
Emerson Climate Technologies Sarl	France
Emerson Climate Technologies S.R.L.	Italy
Gustav Klauke GmbH	Germany
Klauke Iberia, S.L.	Spain
Emerson Dietzenbach GmbH	Germany
Emerson Electric Overseas Finance Corp.	Delaware
Emerson Process Management GmbH	Germany
Emerson Process Management GmbH & Co. OHG	Germany
Aventics Services Germany GmbH	Germany
Aventics GmbH	Germany
epro GmbH	Germany
Flow Control Holding Verwaltungs GmbH	Germany
RPP Europe GmbH	Germany
Sempell GmbH	Germany
Emerson Automation Solutions Final Control Germany GmbH	Germany
Mecafrance (Deutschland) GmbH	Germany
SABO-Armaturen Service GmbH	Germany
Emerson Retail Services Europe GmbH	Germany
Emerson Technologies Verwaltungs GmbH	Germany
Emerson Technologies GmbH & Co. OHG	Germany
Emersub LXXXIV, Inc.	Delaware
Emersub LXXXVI, Inc.	Delaware
EMR Europe Holdings Inc.	Delaware
EMR Holdings (France) SAS	France
ASCO SAS	France
Asco Numatics GmbH	Germany
Asco Numatics, S.A.	Spain
Joucomatic S.A.	Belgium
Francel SAS	France
Generale de Robinetterie Industrielle et de Sytemes de Surete	France
Conception et Representation de Technologies de Controle C.R.T. Controle SAS	France
Klauke France SARL	France
Ridgid France SAS	France
Ridge Tool GmbH	Germany
Ridge Tool GmbH & Co. OHG	Germany
Rosemount Inc.	Minnesota
Dieterich Standard, Inc.	Delaware
Emerson Industrial Automation USA Inc.	Delaware
Fincor Holding, LLC	Delaware
Emerson Process Management AB	Sweden
Emerson Process Management A/S (Denmark)	Denmark
Emerson Process Management AS	Norway

Emerson Process Management Holding AG	Switzerland
Emerson Process Management AG	Switzerland
Emerson LLC	Azerbaijan
Emerson LLP	Kazakhstan
Emerson Process Management del Peru, S.A.C.	Peru
Emerson Process Management Kft.	Hungary
Emerson Process Management Romania S.R.L.	Romania
Emerson Process Management Sp. z o.o.	Poland
Emerson Process Management UAB	Lithuania
Emerson Process Management Ticaret Limited Sirket	Turkey
Emerson Process Management, s.r.o.	Czech Republic
Emerson Process Management, s.r.o.	Slovakia
Emerson TOV	Ukraine
Emerson Process Management Asia Pacific Private Limited	Singapore
Emerson Automation Solutions Final Control Singapore Pte. Ltd.	Singapore
Emerson Automation Solutions Final Control (Sichuan) Co., Ltd.	China
Emerson Automation Solutions Final Control (Shanghai) Co., Ltd.	China
PT Emerson Solutions Indonesia	Indonesia
Safety Systems UK Pte. Ltd.	Singapore
Pentair Valves and Controls India Private Limited	India
Sakhi-Raimondi Valve (India) Limited	India
Emerson Process Management Chennai Private Limited	India
Emerson Process Management Manufacturing (M) Sdn Bhd	Malaysia
Emerson Process Management Valve Automation (M) Sdn Bhd	Malaysia
Spectronix Ltd.	Israel
E. Business Development, E.B.D.Com Ltd.	Israel
Eurotronics Sistemas de Seguridad S.A.	Spain
Fire & Safety Group.Com Ltd.	Israel
Novel Environmental Technologies Ltd.	Israel
Novel Extinguishing Agent Technology Ltd.	Israel
Greenex Ltd.	Israel
S.F.T. Group Ltd.	Israel
Spectrex, Inc.	Connecticut
Emerson Process Management Korea Ltd.	Korea
Emerson Process Management Oy	Finland
Emerson Process Management, S.A. de C.V.	Mexico
Emerson Process Management, S.L.	Spain
Micro Motion, Inc.	Colorado
P I Components Corp.	Texas
Rosemount China Inc.	Minnesota
Rosemount Nuclear Instruments, Inc.	Delaware
Rosemount Specialty Products LLC	Delaware
Emersub 15 LLC	Delaware
Ridge Tool Company	Ohio
Ridge Tool (Australia) Pty. Ltd.	Australia
Ridge Tool Manufacturing Company	Delaware
Ridge Tool Pattern Company	Delaware
RIDGID, Inc.	Delaware
Ridgid Italia S.R.L.	Italy
Ridgid Online, Inc.	Ohio
Ridgid Werkzeuge AG	Switzerland
Therm-O-Disc, Incorporated	Ohio
Componentes Avanzados de Mexico S.A. de C.V.	Mexico
Controles de Temperatura S.A. de C.V.	Mexico
E.G.P. Corporation	Delaware
Emerald Advanced Technology Limited	United Kingdom
Emerson Arabia, Inc.	Delaware
Emerson Climate Technologies Arabia Limited Co.	Saudi Arabia

Emerson Process Management Arabia Limited	Saudi Arabia
Emersub 4 LLC	Delaware
Emerson Climate Technologies Mexico, S.A. de C.V.	Mexico
Emerson Electric (Asia) Limited	Hong Kong
Emerson Electric (South Asia) Pte. Ltd.	Singapore
Emerson (Philippines) Corporation	Philippines
Emerson Electric II, C.A.	Venezuela
Soluciones 0925, C.A.	Venezuela
Emerson Electric International, Inc.	Delaware
Emerson Electric Ireland Limited	Bermuda
Emersub Treasury Ireland Unlimited Company	Ireland
Emerson Electric (Mauritius) Ltd.	Mauritius
Emerson Electric Company (India) Private Limited	India
Westinghouse Electric Pvt. Limited	Mauritius
Emerson Process Management Power & Water Solutions India Private Limited	India
Emerson Finance LLC	Delaware
Emerson International Holding Company Limited	United Kingdom
Aventics Holding S.a.r.l.	Luxembourg
Aventics AB	Sweden
Aventics AG	Switzerland
Aventics ApS	Denmark
Aventics AS	Norway
Aventics B.V.	Netherlands
Aventics Corporation	Delaware
Aventics GmbH	Austria
Aventics Holding S.A.S.	France
Aventics S.A.S.	France
Aventics Hungary Kft	Hungary
Aventics Inc.	Canada
Aventics India Private Limited	India
Aventics Limited	United Kingdom
Aventics Ltd	Korea
Aventics Mexico, S. de R.L. de C.V.	Mexico
Aventics Oy	Finland
Aventics Pneumatics Equipment (Changzhou) Co., Ltd.	China
Aventics Pneumatics Trading (Shanghai) Co., Ltd.	China
Aventics Singapore Pte. Ltd.	Singapore
Aventics Spain, S.L.	Spain
Aventics, spol. s.r.o.	Czech Republic
Aventics Sp. z o.o.	Poland
Aventics S.R.L.	Italy
Emerson Electric Nederland B.V.	Netherlands
Aegir Norge Holding AS	Norway
Roxar AS	Norway
PolyOil Limited	United Kingdom
Roxar Flow Measurement AS	Norway
Emerson Process Management Nigeria Limited	Nigeria
Roxar Maximum Reservoir Performance W.L.L.	Bahrain
Roxar de Venezuela C.A.	Venezuela
Roxar Saudi Co.	Saudi Arabia
Roxar Services AS	Norway
Roxar Services OOO	Russia
Roxar Technologies AS	Norway
Roxar Software Solutions AS	Norway
Roxar Vietnam Company Ltd.	Vietnam
A.P.M. Automation Solutions Ltd.	Israel
Damcos Holding A/S	Denmark
Damcos A/S	Denmark

Emerson Process Management Marine Solutions Korea Co., Ltd.	Korea
Emerson Process Management Marine Systems (Shanghai) Co., Ltd.	China
Emerson Automation Solutions Final Control Netherlands B.V.	Netherlands
Emerson Electric Company Lanka (Private) Limited	Sri Lanka
Emerson LLC	Russia
Emerson Network Power DHC B.V.	Netherlands
Beckman Industrial B.V.	Netherlands
Branson Ultrasonics B.V.	Netherlands
Electrische Apparatenfabriek Capax B.V.	Netherlands
EI-O-Matic B.V.	Netherlands
EI-O-Matic Valve Actuators (F.E.) Pte. Ltd.	Singapore
Emerson Process Management (South Africa) (Proprietary) Ltd.	South Africa
EMRSN HLDG B.V.	Netherlands
Emerson Process Management Flow B.V.	Netherlands
Emerson Process Management B.V.	Netherlands
Fusite B.V.	Netherlands
System Plast International B.V.	Netherlands
Therm-O-Disc Europe B.V.	Netherlands
Emerson S.R.L.	Romania
EMERSON CLIMATE TECHNOLOGIES, s.r.o.	Czech Republic
Emerson Process Management (Vietnam) Co., Ltd.	Vietnam
Emerson Sice S.R.L.	Italy
Asco Numatics Sirai S.R.L.	Italy
Branson Ultrasuoni S.R.L.	Italy
Dixell S.R.L.	Italy
Emerson Climate Technologies Retail Solutions Europe S.R.L.	Italy
Emerson Process Management S.R.L.	Italy
Emerson Process Management Virgo Valves S.R.L.	Italy
Vulsub Italia S.r.l.	Italy
Biffi Italia S.r.l.	Italy
Emerson Automation Solutions Final Control Italia S.r.l.	Italy
Greenlee Communications Limited	United Kingdom
Klauke UK Ltd	United Kingdom
Klauke Handelsgesellschaft mbH	Austria
Klauke Polska Sp. z.o.o.	Poland
Klauke Slovakia s.r.o.	Slovakia
Paradigm B.V.	Netherlands
AGI Mexicana S.A. de C.V.	Mexico
Paradigm France S.A.	France
Paradigm Geophysical B.V.	Netherlands
Paradigm Geophysical de Venezuela C.A.	Venezuela
Paradigm Geophysical do Brasil Ltda.	Brazil
Paradigm Geophysical Italy SRL	Italy
Paradigm Geophysical LLC	Russia
Paradigm Geophysical (Nigeria) Limited	Nigeria
Paradigm Geophysical S.A.	Argentina
Paradigm Geophysical Sdn. Bhd.	Malaysia
Paradigm Geophysical (KL) Sdn. Bhd.	Malaysia
Paradigm Geophysical Spain S.L.	Spain
Paradigm Geotechnology (Egypt) S.A.E.	Egypt
Paradigm Kazakhstan LLP	Kazakhstan
Paradigm Middle East FZ-LLC	United Arab Emirates
Paradigm Geophysical (India) Private Limited	India
Paradigm Geophysical Limited	Israel
Paradigm Geoservices Canada Ltd.	Canada
Paradigm Technology (Beijing) Co., Ltd.	China
Paradigm (UK) Holding Limited	United Kingdom
Paradigm Geophysical Pty Ltd	Australia

PT. Paradigm Geophysical Indonesia	Indonesia
Paradigm Geophysical (U.K.) Limited	United Kingdom
Emerson Middle East, Inc.	Delaware
Emerson Paradigm Holding LLC	Delaware
Emerson Process Management SAS	France
Emerson Process Management, Lda	Portugal
Emerson Ventures Inc.	Delaware
Emerson Vulcan Holding LLC	Delaware
Emersub 3 LLC	Delaware
EMR	Delaware
Vilter Manufacturing LLC	Wisconsin
Emersub 16 LLC	Delaware
Emersub CII, Inc.	Delaware
Emersub CIV, Inc.	Delaware
Emersub XLVI, Inc.	Nevada
Copesub, Inc.	Delaware
Alliance Compressors LLC	Delaware
Emersub Italia S.R.L.	Italy
International Gas Distribution SA	Luxembourg
O.M.T. Officina Meccanica Tartarini S.R.L.	Italy
EMR Foundation, Inc.	Missouri
EMR Holdings, Inc.	Delaware
Branson de Mexico, S.A. de C.V.	Mexico
Chloride Koexa S.A.	Argentina
Copeland Compresores Hermeticos, S.A. de C.V.	Mexico
Dar Ibtikar Al Iraq for General Services and General Trade LLC	Iraq
Emerson Argentina S.A.	Argentina
Emerson Automation Solutions GmbH	Switzerland
Emerson Automation Solutions Isolation Valves, Inc.	Delaware
Emerson Climate Technologies Australia Pty. Ltd.	Australia
Emerson Dominicana, Srl	Dominican Republic
Emerson Electric (U.S.) Holding Corporation (Chile) Limitada	Chile
Emerson Electric C.R. Srl	Costa Rica
Emerson Electric de Mexico S.A. de C.V.	Mexico
Emerson Electric Holdings (Switzerland) GmbH	Switzerland
ALCO CONTROLS, spol. s.r.o.	Czech Republic
Emerson Process Management Co., Ltd.	China
EMR Emerson Holdings (Switzerland) GmbH	Switzerland
Emerson Climate Technologies - Transportation Solutions ApS	Denmark
Emerson Process Management Qatar W.L.L.	Qatar
EMR (Asia) Limited	Hong Kong
Emerson Electric (China) Holdings Co., Ltd.	China
ASCO Valve (Shanghai) Co., Ltd.	China
Beijing Rosemount Far East Instrument Co., Ltd.	China
Branson Ultrasonics (Shanghai) Co., Ltd.	China
Emerson Beijing Instrument Co. Ltd.	China
Emerson Climate Technologies (Shanghai) Co., Ltd.	China
Emerson Climate Technologies (Shenyang) Refrigeration Co., Ltd.	China
Emerson Climate Technologies - Solutions (Suzhou) Co., Ltd.	China
Emerson Climate Technologies (Suzhou) Co., Ltd.	China
Emerson Climate Technologies (Suzhou) Trading Co., Ltd.	China
Emerson Electric (Tongling) Co., Ltd.	China
Emerson Electric (Zhuhai) Co., Ltd.	China
Emerson Fusite Electric (Shenzhen) Co. Ltd.	China
Emerson InSinkErator Appliance (Nanjing) Co., Ltd.	China
Emerson Junkang Enterprise (Shanghai) Co., Ltd.	China
Emerson Machinery Equipment (Shenzhen) Co., Ltd.	China
Emerson Process Management Flow Technologies Co., Ltd.	China

Emerson Process Management Power & Water Solutions (Shanghai) Co., Ltd.	China
Emerson Process Management (Tianjin) Valves Co., Ltd.	China
Emerson Process Management Valve Automation (Tianjin) Co., Ltd.	China
Emerson Professional Tools (Shanghai) Co., Ltd.	China
Emerson Trading (Shanghai) Co., Ltd.	China
Emerson Xi'an Engineering Center	China
Fisher Jeon Gas Equipment (Chengdu) Co., Ltd.	China
Fisher Regulators (Shanghai) Co., Ltd.	China
Klaue Textron (Jiangsu) Electrical Connection Technology Co., Ltd.	China
Parex Industries Limited	New Zealand
Rosemount Tank Radar AB	Sweden
Emerson Process Management Marine Solutions Singapore Pte. Ltd.	Singapore
Rosemount Tank Gauging India Pvt. Ltd.	India
Rosemount Tank Gauging Middle East SPC	Bahrain
Rosemount Tank Radar Properties AB	Sweden
Hytork Controls, Inc.	Florida
Virgo Valves & Controls (ME) FZE	UAE
Virgo Valves and Controls Sdn Bhd	Malaysia
Emerson Electric Korea Ltd.	Korea
Emerson Electric (M) Sdn Bhd	Malaysia
Emerson Electric Poland Sp. z o.o.	Poland
Emerson Process Management Europe GmbH	Switzerland
Emerson Process Management Magyarorszag Kft.	Hungary
Emerson Automation Solutions Final Control Hungary Kft	Hungary
Emerson Process Management NV	Belgium
Emerson Puerto Rico, Inc.	Puerto Rico
Emerson (Thailand) Limited	Thailand
Emersub 5 LLC	Delaware
Emersub Mexico, Inc.	Nevada
Copeland Scroll Compresores de Mexico S.A. de C.V.	Mexico
Daniel Measurement and Control, S. de R.L. de C.V.	Mexico
Emerson Mexico Corporate Services S de R.L. de C.V.	Mexico
Emerson Tool and Appliance Company, S. de R.L. de C.V.	Mexico
Emerson Tool Company de Mexico, S. de R.L. de C.V.	Mexico
Emersub 1 LLC	Delaware
Emersub XXXVI, Inc.	Delaware
Digital Appliance Controls (UK) Limited	United Kingdom
Emerson Holding Company Limited	United Kingdom
Asco Joucomatic Ltd.	United Kingdom
Bristol Babcock Limited	United Kingdom
Copeland Limited	United Kingdom
CSA Consulting Engineers Ltd.	United Kingdom
Emerson Climate Technologies Retail Solutions UK Limited	United Kingdom
Emerson Electric U.K. Limited	United Kingdom
Artesyn Hungary Elektronikai Kft.	Hungary
Bray Lectroheat Limited	United Kingdom
Buehler Europe Limited	United Kingdom
Bannerscientific Limited	United Kingdom
Buehler UK Limited	United Kingdom
Metaserv Limited	United Kingdom
Metallurgical Services Laboratories Limited	United Kingdom
Emerson Egypt LLC	Egypt
Emerson FZE	UAE
Emerson Climate Technologies FZE	UAE
Emerson Gabon SARL	Gabon
Emerson Process Management Angola Lda	Angola
EMRSN Process Management Morocco Sarl	Morocco
Emerson Saudi Arabia LLC	Saudi Arabia

ENPDOR2012A Limited	United Kingdom
Liebert Swindon Limited	United Kingdom
Emerson Energy Systems (UK) Limited	United Kingdom
Emerson Process Management Limited	United Kingdom
Emerson Process Management Distribution Limited	United Kingdom
Emerson Process Management Shared Services Limited	United Kingdom
Groveley Detection Limited	United Kingdom
K Controls Limited	United Kingdom
METCO Services Limited	United Kingdom
Permasense Limited	United Kingdom
Permasense Americas, Inc.	Texas
Permasense Asia Pacific Sdn Bhd	Malaysia
Roxar Limited	United Kingdom
Energy Scitech Ltd.	United Kingdom
Roxar Flow Measurement Limited	United Kingdom
TopWorx UK Limited	United Kingdom
Emerson UK Trustees Limited	United Kingdom
MDC Technology Limited	United Kingdom
MDC Technology Trustees Limited	United Kingdom
Mobrey Group Limited	United Kingdom
Rosemount Measurement Limited	United Kingdom
Cascade Technologies Holdings Limited	Scotland
Cascade Technologies Limited	Scotland
Pactrol Controls Limited	United Kingdom
EMR Worldwide B.V.	Netherlands
Emerson DHC B.V.	Netherlands
Emerson Electric do Brasil Ltda	Brazil
System Plast Ltda	Brazil
Emerson Electric (Thailand) Limited	Thailand
Emerson Process Management Ltda	Brazil
Emerson Scroll Machining (Thailand) Limited	Thailand
Emersub 7 LLC	Delaware
Emersub 8 LLC	Delaware
Emersub 9 LLC	Delaware
Emersub 10 LLC	Delaware
Emersub 11 LLC	Delaware
Emersub 12 LLC	Delaware
EMR (Mauritius) Ltd.	Mauritius
Emerson Electric Canada Limited	Canada
Emerson Holding Sweden AB	Sweden
Emerson Sweden AB	Sweden
Emerson USD Finance Company Limited	United Kingdom
Emerson Final Control Canada, Inc.	Canada
Emerson Mexico Finance, S.A. de C.V., SOFOM, ENR	Mexico
Net Safety Monitoring Inc.	Canada
Rutherford Acquisitions Limited	United Kingdom
Branson Ultrasonics a.s.	Slovakia
Emerson Automation Solutions Final Control Africa (Pty) Ltd	South Africa
Vulsub South Africa (Pty) Ltd	South Africa
Emerson Automation Solutions Final Control Czech s.r.o.	Czech Republic
Emerson Automation Solutions Final Control Polska Sp. z o.o.	Poland
Emerson Automation Solutions Final Control South Africa (Pty) Ltd	South Africa
Emerson Climate Technologies (South Africa) (Pty) Ltd	South Africa
Emerson Comres de Mexico, S. de R.L. de C.V.	Mexico
Emerson Electric Ireland Limited	Ireland
Emerson Process Management de Colombia SAS	Colombia
Emerson Process Management d.o.o.	Croatia
Emerson Process Management (India) Private Limited	India

Shanghai Virgo Valves Technology Consulting Co., Ltd.	China
Emerson Process Management S.A.	Greece
Emerson Valves & Controls Japan Co., Ltd.	Japan
Pentair Valves & Controls Argentina S.A.	Argentina
Taiwan Valve Co., Ltd.	Taiwan
Vulsub Brasil Holding S.a.r.l.	Luxembourg
Vulsub Brasil Ltda.	Brazil
Westlock Equipamentos de Controle Ltda.	Brazil
Hiter Indústria e Comercia de Controles Termo-Hidraulicos Ltda.	Brazil
Vulsub Holding III (Denmark) ApS	Denmark
Emerson Automation Solutions Final Control Denmark A/S	Denmark
Vulsub Holding Ltd	Isle of Man
Emerson Automation Solutions SSC UK Limited	United Kingdom
Emerson Automation Solutions Final Control UK II Ltd	United Kingdom
Emerson Automation Solutions Final Control UK Ltd	United Kingdom
Emerson Sales UK Limited	United Kingdom
Keystone Valve (U.K.) Limited	United Kingdom
Vulsub 1 Limited	United Kingdom
Vulsub Property Limited	United Kingdom
Hindle Cockburns Limited	United Kingdom
Spensall Engineering Limited	United Kingdom
Steel Support Systems Limited	United Kingdom
Westlock Controls Limited	United Kingdom
Vulsub Holdings C, LLC	Delaware
Emerson Automation Solutions Final Control Malaysia Sdn. Bhd.	Malaysia
Vulsub Middle East Holdings, LLC	Delaware
Emerson Automation Solutions Final Control Middle East FZE	United Arab Emirates
Vulsub Gulf Holding Limited	United Arab Emirates
Emirates Techno Casting FZE	United Arab Emirates
ETC International Holdings, Ltd.	British Virgin Islands
Emirates Techno Casting Holding Limited	United Arab Emirates
Emirates Techno Casting LLC	United Arab Emirates
Gulf Valve FZE	United Arab Emirates
JCF Fluid Flow India Private Limited	India
Vulsub Peru S.A.C.	Peru
F-R Tecnologias de Flujo, S.A. de C.V.	Mexico
NetworkPower Ecuador S.A.	Ecuador
PT. Emerson Indonesia	Indonesia
RAC Technologies (Israel) Ltd.	Israel
Rey-Lam, S. de R.L. de C.V.	Mexico
Termotec de Chihuahua, S.A. de C.V.	Mexico
Tranmet Holdings Limited	United Kingdom
Tranmet Holdings B.V.	Netherlands
Industrial Group Metran JSC	Russia
Metran-Export CJSC	Russia
TDM-avtomatizatsiya	Russia
Endura Holding Limited	Hong Kong
Endura-Greenlee Tools (Shanghai) Co., Ltd.	China
ENPESNA, Inc.	Delaware
EPMCO Holdings, Inc.	Delaware
Emerson Process Management Regulator Technologies, Inc.	Delaware
Fromex, S.A. de C.V.	Mexico
Fisher Controls International LLC	Delaware
Emerson Process Management Australia Pty Limited	Australia
Emerson Automation Solutions Final Control Australia Pty Limited	Australia
Emerson Automation Solutions Final Control Sales Australia Pty Limited	Australia
Emerson Process Management New Zealand Limited	New Zealand
Vulsub SSC Australia Pty Limited	Australia

Fisher Controles de Mexico, S.A. de C.V.	Mexico
Instrument & Valve Services Company	Delaware
Nippon Fisher Co., Ltd.	Japan
Fisher-Rosemount Systems, Inc.	Delaware
Emerson Process Management Holding LLC	Delaware
Emerson Process Management LLLP	Delaware
Emerson Process Management Power & Water Solutions, Inc.	Delaware
EPM Tulsa Holdings Corp.	Delaware
Emerson Process Management Regulator Technologies Tulsa, LLC	Oklahoma
Fiberconn Assemblies Morocco Sarl	Morocco
Fusite Corporation	Ohio
Emerson Japan, Ltd.	Japan
Fusite Land Company	Delaware
General Equipment and Manufacturing Company, Inc.	Kentucky
GeoFields, Inc.	Georgia`
Greenlee Tools, Inc.	Delaware
HD Electric Company	Illinois
Sherman + Reilly, Inc.	Tennessee
Hiross India Private Limited	India
Humboldt Hermetic Motor Corp.	Delaware
Woodstock Land Company LLC	Missouri
Intrinsic Safety Equipment of Texas, Inc.	Texas
Locus Solutions, LLC	Wisconsin
Locus Traxx Worldwide Europe BVBA	Belgium
Management Resources Group, Inc.	Connecticut
Motores Hermeticos del Sur, S.A. de C.V.	Mexico
PakSense, Inc.	Delaware
PakSense South America SpA	Chile
Paradigm Geophysical Corp.	Delaware
ProTeam, Inc.	Idaho
Ridge Tool Europe NV	Belgium
Ridgid Scandinavia A/S	Denmark
Von Arx AG	Switzerland
Von Arx GmbH	Germany
Rosemount Tank Gauging North America Inc.	Texas
System Plast USA de Mexico, S. de R.L. de C.V.	Mexico
Termocontroles de Juarez, S.A. de C.V.	Mexico
Tescom Corporation	Minnesota
Tescom Europe Management GmbH	Germany
Tescom Europe GmbH & Co. KG	Germany
Thunderline Z, Inc.	Delaware

CONSENT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

The Board of Directors
Emerson Electric Co.:

We consent to the incorporation by reference in the Registration Statement Nos. 333-206096, 333-173933, 333-221671, 333-154362, 333-154361, 333-152917, 333-152916 and 333-90240 on Form S-8 and Registration Statement Nos. 333-221668, 333-110546, 333-52658, 333-84673 and 333-66865 on Form S-3 of Emerson Electric Co. of our report dated November 19, 2018, with respect to the consolidated balance sheets of Emerson Electric Co. as of September 30, 2018 and 2017, and the related consolidated statements of earnings, comprehensive income, equity, and cash flows for each of the years in the three-year period ended September 30, 2018, and the related notes (collectively, the consolidated financial statements), and the effectiveness of internal control over financial reporting as of September 30, 2018, which report appears in the September 30, 2018 annual report on Form 10-K of Emerson Electric Co.

In our report dated November 19, 2018, our opinion on the effectiveness of internal control over financial reporting as of September 30, 2018 contains an explanatory paragraph that states "the Company acquired the tools and test equipment business and Aventics during 2018, and management excluded from its assessment of the effectiveness of the Company's internal control over financial reporting as of September 30, 2018, the tools and test equipment business' and Aventics' internal control over financial reporting associated with total assets and revenues of 9 percent and 1 percent, respectively, included in the consolidated financial statements of the Company as of and for the year ended September 30, 2018." Our audit of internal control over financial reporting of the Company also excluded an evaluation of the internal control over financial reporting of the tools and test equipment business and Aventics.

/s/ KPMG LLP

St. Louis, Missouri
November 19, 2018

POWER OF ATTORNEY

The undersigned members of the Board of Directors and Executive Officers of Emerson Electric Co., a Missouri corporation with principal offices at 8000 West Florissant Avenue, St. Louis, Missouri 63136, hereby appoint F. J. Dellaquila, S. Y. Bosco, M. J. Baughman and J. A. Sperino as their Attorneys-in-Fact for the purpose of signing Emerson Electric Co.'s Securities and Exchange Commission Form 10-K (and any and all Amendments thereto) for the fiscal year ended September 30, 2018 .

Dated: October 2, 2018

SignatureTitle

<u>/s/ D. N. Farr</u> D. N. Farr	Chairman of the Board and Chief Executive Officer
<u>/s/ F. J. Dellaquila</u> F. J. Dellaquila	Senior Executive Vice President and Chief Financial Officer
<u>/s/ M. J. Baughman</u> M. J. Baughman	Vice President, Controller and Chief Accounting Officer
<u>/s/ C. A. H. Boersig</u> C. A. H. Boersig	Director
<u>/s/ J. B. Bolten</u> J. B. Bolten	Director
<u>/s/ G. A. Flach</u> G. A. Flach	Director
<u>/s/ A. F. Golden</u> A. F. Golden	Director
<u>/s/ C. Kende</u> C. Kende	Director
<u>/s/ L. M. Lee</u> L. M. Lee	Director
<u>/s/ M. S. Levatic</u> M. S. Levatic	Director
<u>/s/ J. S. Turley</u> J. S. Turley	Director

Certification

I, D. N. Farr, certify that:

1. I have reviewed this annual report on Form 10-K of Emerson Electric Co.;
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:
 - 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: November 19, 2018

/s/ D. N. Farr

D. N. Farr
Chairman of the Board and
Chief Executive Officer
Emerson Electric Co.

Certification

I, F. J. Dellaquila, certify that:

1. I have reviewed this annual report on Form 10-K of Emerson Electric Co.;
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:
 - 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: November 19, 2018

/s/ F. J. Dellaquila

F. J. Dellaquila
Senior Executive Vice President and
Chief Financial Officer
Emerson Electric Co.

**CERTIFICATION PURSUANT TO
EXCHANGE ACT RULE 13a-14(b) AND
18 U.S.C. SECTION 1350**

In connection with the Annual Report of Emerson Electric Co. (the "Company") on Form 10-K for the period ended September 30, 2018, as filed with the Securities and Exchange Commission on the date hereof (the "Report"), I, D. N. Farr, certify, to the best of my knowledge, pursuant to Exchange Act Rule 13a-14(b) and 18 U.S.C. Section 1350, that:

- (1) The Report fully complies with the requirements of Section 13(a) or 15(d) of the Securities Exchange Act of 1934; and
- (2) The information contained in the Report fairly presents, in all material respects, the financial condition and results of operations of the Company.

/s/ D. N. Farr

D. N. Farr
Chairman of the Board and
Chief Executive Officer
Emerson Electric Co.
November 19, 2018

**CERTIFICATION PURSUANT TO
EXCHANGE ACT RULE 13a-14(b) AND
18 U.S.C. SECTION 1350**

In connection with the Annual Report of Emerson Electric Co. (the "Company") on Form 10-K for the period ended September 30, 2018, as filed with the Securities and Exchange Commission on the date hereof (the "Report"), I, F. J. Dellaquila, certify, to the best of my knowledge, pursuant to Exchange Act Rule 13a-14(b) and 18 U.S.C. Section 1350, that:

- (1) The Report fully complies with the requirements of Section 13(a) or 15(d) of the Securities Exchange Act of 1934; and
- (2) The information contained in the Report fairly presents, in all material respects, the financial condition and results of operations of the Company.

/s/ F. J. Dellaquila

F. J. Dellaquila
Senior Executive Vice President and
Chief Financial Officer
Emerson Electric Co.
November 19, 2018