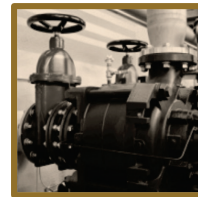


# FLOW CONTROL

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# Industry In-Sight™

THIRD QUARTER 2019



**JORDAN KNAUFF  
& COMPANY**

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# Introduction

BY G. COOK JORDAN, JR.

## *Who is JKC and What Do We Do?*

Jordan Knauff & Company (JKC) was founded in 2001 to undertake a distinct mission: to assemble and maintain a staff of top-notch investment banking personnel and offer their knowledge and experience to provide the best available investment banking services to middle-market companies, the entrepreneurs that lead them and the financial entities that transact with them. On a combined basis, over the course of their careers our employees have completed over 200 transactions as investors, owners, operators, investment bankers, buyers of middle-market businesses or sellers of middle-market businesses across a variety of industries. The majority of our firm's broad transaction experience has been with private companies owned by one shareholder, a partnership, a family or private equity investors.

Experience has taught us that the owners and executives of middle-market businesses tend to have very different needs and goals in capital transactions from those that are common to capital events related to larger companies. Our personnel apply their considerable expertise to accomplish important goals: delivery of successful outcomes for our clients. Pursuant to that, we direct and manage all aspects of the capital transaction process, assist our clients with the management of important constituents (employees, customers, vendors and lenders), act as a teammate to other important client advisors (legal counsel, accountant, tax advisor) and collaborate with transaction counsel in the negotiations with the parties on the other side of the transaction.

## *The Services We Provide*

### ■ **Sell Companies**

- Representation of owners who are seeking the sale of their business – ranging from the sale of part of the equity of a company to a full liquidity transaction involving the sale of the entire business. In either case, our objective is to transfer the inherent value of the business into an exchange which yields the best price and structure that meet the specific transaction goals of our client.

### ■ **Raise Debt and Equity Capital**

- We represent clients in the raising of all forms of capital: senior debt, mezzanine debt and equity capital. Proceeds may be typically used for a variety of applications, including: funding growth, recapitalization, expansion of assets, acquisitions or partial liquidity for shareholders.

***Experience has taught us that the owners and executives of middle-market businesses tend to have very different needs and goals ... than... larger companies.***

■ **Acquisition Advisory**

- Assistance to clients in the successful closing of an acquisition. Pertinent services include: valuation, optimization of structure, direction of the due diligence process and negotiation of transaction documents. Acquisition advisory services encompass work on a standalone target or a series of acquisitions that form a strategic consolidation plan.

■ **Strategic Business Services**

- A suite of consulting projects designed specifically for middle-market business owners and executives to enable them to make better decisions about their companies or industries. Services include:
  - Company Specific Valuations
  - Capital Road Maps®
  - Strategic Industry Analyses

**Areas of Expertise**

Our team of professionals has notable experience in a broad portfolio of industries. While each project is evaluated on a case-by-case basis and the firm has the capabilities to service middle-market companies in almost any industry, JKC has significant expertise in the following industries:

**Manufacturing & Distribution**

- Manufacturing / Valued Added Manufacturing
- Manufacturing Process Technology
- Distribution / Value Added Distribution

**Energy Logistics & Distribution**

- Natural Gas Liquids: Direct to Consumer, Wholesale & Midstream
- Light Fuels
- Lubricants
- Petro Chemicals

**Building Products & Services**

- Windows & Doors
- Pre-fabricated Forms and Components
- Caulks & Sealants
- Flooring Products

**Flow Control**

- Pumps, Valves & Filtration
- Water Management
- Related Technology

**Business Services**

**Real Estate**

**Closing Thoughts**

Thank you for taking the time to review this quarterly publication. We hope that you will find it to be relevant and informative. With that purpose in mind, we would welcome any thoughts or comments that you may have about it. Visit our research library at [www.jordanknauff.com/research-library](http://www.jordanknauff.com/research-library) to view our previous Flow Control quarterly publications, as well as our other industry publications.

If you desire more information about our firm and its mission, please contact any member of our team listed on the back cover of this report. Our website is [www.jordanknauff.com](http://www.jordanknauff.com) and our main telephone number is (312) 254-5900.

**... please contact any member of our team listed on the back cover of this report.**

## Current Events / Trends

BY G. COOK JORDAN, JR.  
LORI A. CALLWAY

### *Over the Past Year, the AxFlow Group of Sweden Has Grown Through Acquisitions*



Established in 1989, the AxFlow Group (AxFlow) consisted of 34 companies with 970 employees; operations in more than 30 countries across Europe, South Africa, Australia and New Zealand; and had sales of approximately \$240 million at the end of 2018.

Based in Stockholm, Sweden, AxFlow distributes a broad range of positive displacement pumps – gear, peristaltic, air-operated double-diaphragm, metering, progressive cavity and lobe pumps, as well as specialized centrifugal pumps. It also supplies mixers, heat exchangers, valves, grinders, instrumentation and analysis equipment, and associated fluid handling equipment. The company serves the food and beverage, chemical, petrochemical, water and wastewater, mining, construction, ceramics, pharmaceuticals, and pulp and paper industries.

The company's growth strategy includes acquisitions in order to: 1) continue geographical expansion in Europe and also in Africa and Latin America, 2) develop a strong service organization in their current markets, 3) offer customized compete fluid handling solutions, and 4) establish complementary products to positive displacement pumps, e.g. valves and/or vacuum pumps.

Over the past year, AxFlow has made a number of acquisitions to expand its geographic reach and product offering including the following:

- **July 2019, Ireland – Irish Pumps & Valves Limited**, a major supplier of valves, actuators, pumps and ancillary equipment to the wastewater, power generation and process industries. Established in 1998, the company has an extensive stock of gate, non-return, ball and butterfly valves, in addition to pneumatic and electric actuators, flanges, fittings and gaskets. The acquisition will enable AxFlow to offer pumps and valves in one package, giving them a significant competitive advantage in the Irish market.
- **July 2019, Ireland – Induchem Group**, based in Cork, provides fluid handling solutions focusing on industrial valves, lined pipe solutions, mixers and pneumatics. The company has four sites located in Ireland and the U.K. Induchem will continue to operate under its brand. Founded in 1982, Induchem serves customers in the pharmaceutical, power generation, chemical, petrochemical, design and engineering. The acquisition gives AxFlow the capabilities to build larger systems.

- **June 2019, Italy – Generalcontrol Spa**, a Milan-based distributor of positive displacement pumps, vacuum pumps, instruments, air motors, medical air compressors and mixers for the sanitary, chemical, ceramics and automotive industries. Established in 1967, Generalcontrol offers a highly skilled workforce and excellent facilities.
- **May 2019, Slovenia – VIP Tehnika**, a supplier of centrifugal pumps and service for water, wastewater, food, beverage, industrial and chemical applications for almost 30 years. Located near its business in Graz, VIP Tehnika provides AxFlow with a second base from which to grow its operations in Slovenia, Croatia, Serbia and Austria.
- **May 2019, Norway – Inna AS**, a distributor of premium valves and piping solutions for the water and wastewater sectors. AxFlow has been selling pumps, stations, instrumentation and valves for wastewater treatment in Norway for decades.
- **September 2018, Australia and New Zealand – Brown Brothers Engineers and Kelair Pumps**, the market-leading distributor of positive displacement and centrifugal pumps in Australia and New Zealand. Operating through 15 locations, the acquired company is the second step in AxFlow's geographic expansion outside of Europe. In 2016, AxFlow acquired AQS in South Africa.

The AxFlow Group is the Fluid Handling Solutions business group of Axel Johnson International, a privately owned industrial group that operates in strategically selected niche markets, primarily technical components and industrial process solutions. Based in Stockholm, Sweden, Axel Johnson International is made up of five business groups: Fluid Handling Solutions, Industrial Solutions, Lifting Solutions, Power Transmission Solutions and Transport Solutions. The group comprises more than 110 companies that together employ 4,100 people in 27 countries. Annual sales were approximately \$1.1 billion in 2018.

# Mergers & Acquisitions Activity

BY DAVID A. KAKAREKA

Flow Control M&A activity continues to be resilient as evidenced by the recent transactions listed below.

**TABLE II: SELECTED VALVE M&A TRANSACTIONS: 3Q 2019<sup>(1)</sup>**

Announced Date	Target	Acquirer(s)
9/20/2019	Andreas Lupold Hydrotechnik GmbH	Hydraulik Nord GmbH
9/18/2019	Milwaukee Valve Company, Inc.	NIBCO Inc.
9/5/2019	Bailey International, LLC	EBSCO Capital LLC
9/3/2019	Högfors Oy	Ari-Armaturen Albert Richter GmbH & Co. KG
9/2/2019	Finkova Oy	Indutrade AB
8/21/2019	ARMATURY Group AS	Vexve Oy
8/20/2019	PBM, Inc.	IMI plc
7/23/2019	Irish Pumps & Valves Ltd.	AxFlow Holding AB
7/23/2019	HiAlloy Valve LLC	Movement Industries Corporation
7/18/2019	Induchem Group	AxFlow Holding AB
7/5/2019	Dynamic Fluid Control Pty. Ltd.	Copaflo Fluid Control Pty Ltd.

**TABLE III: SELECTED PUMP M&A TRANSACTIONS: 3Q 2019<sup>(1)</sup>**

Announced Date	Target	Acquirer(s)
9/20/2019	Andreas Lupold Hydrotechnik GmbH	Hydraulik Nord GmbH
9/5/2019	Bailey International, LLC	EBSCO Capital LLC
9/2/2019	Finkova Oy	Indutrade AB
7/23/2019	Irish Pumps & Valves Ltd.	AxFlow Holding AB
7/8/2019	Oina VV AB	Gardner Denver Holdings, Inc.
7/5/2019	Dynamic Fluid Control Pty. Ltd.	Copaflo Fluid Control Pty. Ltd.
7/1/2019	Finisterra AS	Elma Instruments A/S

**TABLE IV: SELECTED FILTER M&A TRANSACTIONS: 3Q 2019<sup>(1)</sup>**

Announced Date	Target	Acquirer(s)
9/23/2019	Ultrafiltration Membrane Business of BASF SE	DuPont de Nemours, Inc.
9/18/2019	Hangzhou Anow Microfiltration Co., Ltd.	Entegris, Inc.
9/5/2019	Dahlman Industrial Group BV	Porvair plc
8/19/2019	AQC Co., Ltd.	Yamashin-Filter Corp.
8/5/2019	Hardy Filtration Inc.	Mann + Hummel
8/1/2019	First Sales, LLC	Franklin Electric Co., Inc.
7/3/2019	Diversitech Equipment & Sales (1984) Ltd.	Absolent Group AB

(1) Source: S&P Capital IQ and JKC research.

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# Public Equity and Valuation Analysis

BY DAVID A. KAKAREKA

## Wall Street Valve Watch

The JKC Valve Stock Index was down 14.9% over the last 12 months, while the broader S&P 500 Index was up 1.8%.

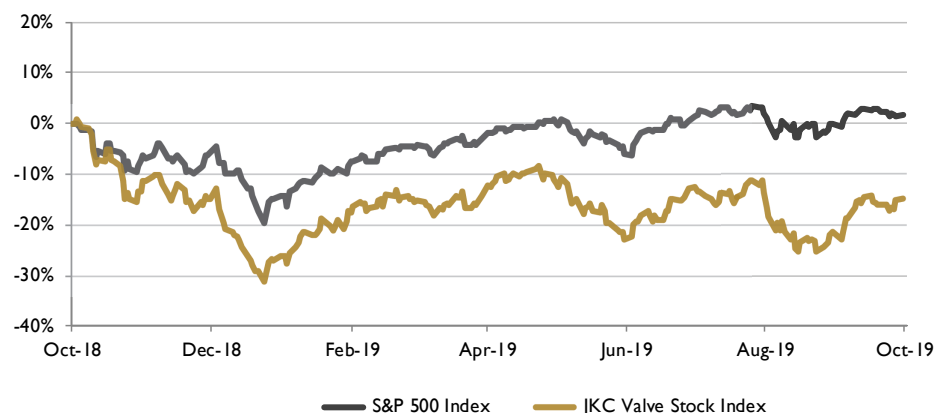
U.S. petroleum and natural gas production increased by 16% and by 12%, respectively, in 2018, one of the largest absolute petroleum and natural gas production increases from a single country in history. U.S. crude oil production increased by nearly 11.0 million barrels per day, with production in the Permian region of western Texas and eastern New Mexico contributing most of the growth. U.S. natural gas production increased to 28.5 billion cubic feet per day, reaching a new record high for the second year in a row. Ongoing growth in liquefied natural gas export capacity and the expanded ability to reach new markets supported increases in this production.<sup>(1)</sup>

U.S. crude oil refinery capacity reached a record high at the beginning of 2019. As of the beginning of January, U.S. operable crude oil distillation capacity was 18.8 million barrels per calendar day (b/cd), an increase of 1.1% since the beginning of 2018, according to the U.S. Energy Information Administration. The previous high of 18.6 million b/cd was set at the beginning of 1981. U.S. annual operable crude oil distillation unit capacity has increased slightly in six of the past seven years.

On Wall Street, the Dow Jones Industrial Average, the S&P 500 Index and the NASDAQ Composite gained 2.0%, 1.7% and 0.5%, respectively in September. The first half of the month was encouraged by the possibility of an interim trade deal and a second rate cut by The Federal Reserve Bank. However, volatility erupted in the second half due to heightened trade tensions and likelihood of the initiation of an impeachment proceeding of the President. For the third quarter, the Dow Jones Industrial Average and the S&P 500 Index gained 1.2% each while the NASDAQ Composite was down 0.1%.

**U.S. crude oil refinery capacity reached a record high at the beginning of 2019.**

**CHART I: JKC VALVE STOCK INDEX<sup>(2)</sup>**



(1) See Economic Indicators section of this report for more detailed information on these indicators.

(2) Source: S&P Capital IQ and JKC research. Local currency converted to USD using historical spot rates. The JKC Valve Stock Index includes a select list of publicly-traded companies involved in the valve industry weighted by market capitalization.



Valve Companies

As shown in Tables V and VI, as of September 30, 2019, domestic and international Valve companies were trading at median total enterprise value / latest twelve months (“TEV/LTM”) EBITDA multiples of 12.2x and 8.9x, respectively, while both groups have median EBITDA margins of 17.8% and 11.9%, respectively. The median stock price as a percentage of the 52-week high for both groups is 87% and 81%, respectively, of their 52-week highs. With the exception of a few companies, we believe both groups are fairly well capitalized.

TABLE V: SELECTED DOMESTIC VALVE COMPANIES<sup>(1)</sup>

(US\$ in millions, except per share data)

Company	LTM			Stock Price 9/30/2019	% of 52-Week High	Market Cap	Total Enterprise Value <sup>(3)</sup>	TEV / LTM		Net Debt <sup>(4)</sup> EBITDA
	Revenues <sup>(2)</sup>	EBITDA <sup>(2)</sup>	Margin					Revenues	EBITDA	
Badger Meter Inc. (BMI)	\$421	\$84	20.0%	\$53.70	87.2%	\$1,563	\$1,544	3.7x	18.3x	(0.4x)
CIRCOR International Inc. (CIR)	1,151	129	11.2	37.55	77.9	747	1,439	1.3	11.1	4.6
Crane Co. (CR)	3,285	564	17.2	80.63	80.5	4,834	5,588	1.7	9.9	1.2
Curtiss-Wright Corp. (CW)	2,481	512	20.6	129.37	93.1	5,528	6,226	2.5	12.2	1.2
Dover Corp. (DOV)	7,170	1,315	18.3	99.56	96.2	14,480	17,632	2.5	13.4	2.2
Emerson Electric Co. (EMR)	18,372	3,763	20.5	66.86	83.9	41,126	45,785	2.5	12.2	1.1
Flowserve Corp. (FLS)	3,864	517	13.4	46.71	84.3	6,127	7,202	1.9	13.9	1.9
General Electric Co. (GE)	120,079	13,974	11.6	8.94	64.9	78,020	194,590	1.6	13.9	5.9
Honeywell International Inc. (HON)	36,942	8,645	23.4	169.20	94.8	121,741	128,859	3.5	14.9	0.8
ITT Corporation (ITT)	2,806	495	17.6	61.19	91.5	5,379	5,110	1.8	10.3	(0.7)
Mueller Water Products, Inc. (MWA)	968	191	19.7	11.24	95.1	1,769	2,077	2.1	10.9	1.4
Parker Hannifin Corporation (PH)	14,176	2,578	18.2	180.61	94.6	23,208	26,951	1.9	10.5	2.1
Schlumberger Limited (SLB)	32,868	6,561	20.0	34.17	53.7	47,257	62,406	1.9	9.5	2.2
SPX Flow Inc. (FLOW)	2,050	251	12.3	39.46	74.4	1,680	2,291	1.1	9.1	2.2
TechnipFMC plc (FTI)	13,005	1,577	12.1	24.14	75.7	10,792	11,082	0.9	7.0	0.2
Watts Water Technologies, Inc. (WTS)	1,588	245	15.4	93.73	93.7	3,179	3,389	2.1	13.8	0.9
Xylem Inc. (XYL)	5,264	939	17.8	79.62	93.2	14,334	16,672	3.2	17.8	2.3
<b>Median</b>			<b>17.8%</b>		<b>87.2%</b>			<b>1.9x</b>	<b>12.2x</b>	<b>1.4x</b>
<b>Mean</b>			<b>17.0</b>		<b>84.4</b>			<b>2.1</b>	<b>12.3</b>	<b>1.7</b>

(1) Source: S&P Capital IQ and JKC research.

(2) Revenues and EBITDA are for the latest twelve months as of 9/30/19.

(3) Total enterprise value is defined as market capitalization plus total debt less cash and cash equivalents.

(4) Net debt is defined as total debt less cash and cash equivalents.

**TABLE VI: SELECTED INTERNATIONAL VALVE COMPANIES<sup>(1)</sup>**

(US\$ in millions, except per share data)

Company	LTM			Stock Price 9/30/2019	% of 52-Week High	Market Cap	Total Enterprise Value <sup>(3)</sup>	TEV / LTM		Net Debt <sup>(4)</sup> EBITDA
	Revenues <sup>(2)</sup>	EBITDA <sup>(2)</sup>	Margin					Revenues	EBITDA	
Aalberts Industries NV (AALB)	\$3,062	\$474	15.5%	\$39.65	94.1%	\$4,384	\$5,399	1.8x	11.4x	2.2x
Alfa Laval AB (ALFA)	4,359	800	18.4	19.77	77.8	8,294	9,255	2.1	11.6	1.0
Georg Fischer AG (FI-N)	4,117	461	11.2	866.46	77.2	3,547	4,002	1.0	8.7	0.9
Hisaka Works Ltd. (6247)	288	31	10.7	7.99	70.0	225	131	0.5	4.3	(3.7)
Hitachi Ltd. (6501)	86,474	9,922	11.5	37.22	95.8	35,962	48,839	0.6	4.9	0.3
IMI plc (IMI)	2,341	431	18.4	11.81	82.4	3,198	3,829	1.6	8.9	1.5
Kitz Corp. (6498)	1,247	146	11.7	6.65	72.0	618	840	0.7	5.8	1.4
KSB Aktiengesellschaft (KSB)	2,552	164	6.4	307.49	84.9	536	570	0.2	3.5	(1.0)
Kubota Corp. (6326)	17,716	2,386	13.5	15.12	81.1	18,457	24,630	1.4	10.3	2.6
Lupatech S.A. (LUPA3)	35	(29)	(84.1)	0.39	62.8	8	59	1.7	NM	(1.4)
Metso Corp. (METSO)	3,731	509	13.6	37.37	86.1	5,608	6,065	1.6	11.9	0.9
Okano Valve Manufacturing Co. (6492)	61	(1)	(1.8)	18.34	72.3	32	24	0.4	NM	7.0
Saint Gobain (SGO)	46,520	5,522	11.9	39.25	96.8	21,329	35,477	0.8	6.4	2.6
SMC Corp. (6273)	5,135	1,694	33.0	426.48	97.2	28,522	23,785	4.6	14.0	(2.9)
Spirax-Sarco Engineering plc (SPX)	1,472	435	29.5	96.49	83.1	7,104	7,637	5.2	17.6	1.3
The Weir Group PLC (WEIR)	3,338	552	16.5	17.53	78.3	4,547	6,167	1.8	11.2	3.0
Velan, Inc. (VLN)	381	13	3.4	5.20	54.5	112	109	0.3	8.5	(0.3)
<b>Median</b>			<b>11.9%</b>		<b>81.1%</b>			<b>1.4x</b>	<b>8.9x</b>	<b>1.0x</b>
<b>Mean</b>			<b>8.2</b>		<b>80.4</b>			<b>1.5</b>	<b>9.3</b>	<b>0.9</b>

(1) Source: S&amp;P Capital IQ and JKC research.

(2) Revenues and EBITDA are for the latest twelve months as of 9/30/19.

(3) Total enterprise value is defined as market capitalization plus total debt less cash and cash equivalents.

(4) Net debt is defined as total debt less cash and cash equivalents.

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### Wall Street Pump Watch

The JKC Pump Stock Index was down 12.3% over the last twelve months, while the S&P 500 Index was up 1.8% over the same time period.

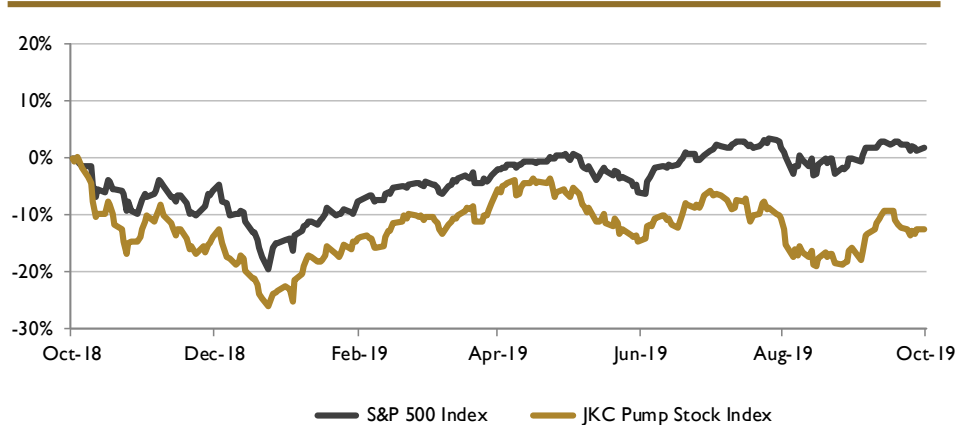
The Institute for Supply Management’s Purchasing Managers’ Index (PMI) September reading registered 47.8%, a decrease of 1.3 percentage points from the August reading of 49.1%. September was the second consecutive month of PMI contraction, and at 47.8%, the ISM manufacturing index is now at its lowest level this business cycle, including the 2015-2016 slowdown. Every subcomponent in the survey was below 50 percent, with the exception of supplier delivery times. Global trade remains the most significant issue, as demonstrated by the contraction in new export orders that began in July. Of the 18 manufacturing industries surveyed, three reported growth in September: miscellaneous manufacturing; food, beverage & tobacco products; and chemical products.<sup>(1)</sup>

Global manufacturing production was broadly stagnant in September. Although still below the neutral mark of 50%, the J.P. Morgan Global Manufacturing PMI™ rose for the second month to 49.7%. National PMI data signaled deteriorations in overall business conditions in 15 of the countries covered. Japan saw further contraction while the rate of decline in the Eurozone was the fastest in almost seven years, mainly due to a sharp deterioration in the performance of Germany. The trend in international trade flows also remained weak, as new export orders declined for the thirteenth consecutive month. The U.S., China, Germany and Japan were among the many nations to report a decrease in new export business.

On Wall Street, the Dow Jones Industrial Average, the S&P 500 Index and the NASDAQ Composite gained 2.0%, 1.7% and 0.5%, respectively in September. The first half of the month was encouraged by the possibility of an interim trade deal and a second rate cut by The Federal Reserve Bank. However, volatility erupted in the second half due to heightened trade tensions and likelihood of the initiation of an impeachment proceeding of the President. For the third quarter, the Dow Jones Industrial Average and the S&P 500 Index gained 1.2% each while the NASDAQ Composite was down 0.1%.

**... the ISM manufacturing index is now at its lowest level this business cycle ...**

**CHART II: JKC PUMP STOCK INDEX<sup>(2)</sup>**



(1) See Economic Indicators section of this report for more detailed information on these indicators.  
 (2) Source: S&P Capital IQ and JKC research. Local currency converted to USD using historical spot rates. The JKC Pump Stock Index includes a select list of publicly-traded companies involved in the pump industry weighted by market capitalization.

**Pump Companies**

Domestic Pump companies (as listed in Table VII) and international Pump companies (in Table VIII) were trading at median TEV/LTM EBITDA multiples of 14.1x and 10.2x, respectively, as of September 30, 2019. As you can see, both groups are similarly leveraged with a median net debt/LTM EBITDA ratio of 2.0x for domestic Pump companies compared to 0.8x for international Pump companies. In our assessment, both groups are extremely well capitalized and could afford to take on additional indebtedness.

**TABLE VII: SELECTED DOMESTIC PUMP COMPANIES<sup>(1)</sup>**

(US\$ in millions, except per share data)

Company	LTM			Stock Price 9/30/2019	% of 52-Week High	Market Cap	Total Enterprise Value <sup>(3)</sup>	TEV / LTM		Net Debt <sup>(4)</sup> EBITDA
	Revenues <sup>(2)</sup>	EBITDA <sup>(2)</sup>	Margin					Revenues	EBITDA	
Ampco-Pittsburgh Corp. (AP)	\$397	\$11	2.7%	\$3.68	61.3%	\$47	\$130	0.3x	12.1x	6.6x
Baker Hughes Inc. (BKR)	23,755	3,046	12.8	23.20	68.1	15,060	37,294	1.6	12.2	1.6
Colfax Corporation (CFX)	4,488	632	14.1	29.06	78.4	3,419	7,721	1.7	12.2	6.4
Crane Co. (CR)	3,285	564	17.2	80.63	80.5	4,834	5,588	1.7	9.9	1.2
Curtiss-Wright Corp. (CW)	2,481	512	20.6	129.37	93.1	5,528	6,226	2.5	12.2	1.2
Danaher Corp. (DHR)	20,437	4,856	23.8	144.43	98.0	103,609	111,060	5.4	22.9	0.9
Dover Corp. (DOV)	7,170	1,315	18.3	99.56	96.2	14,480	17,632	2.5	13.4	2.2
Energy Recovery, Inc. (ERII)	85	17	20.4	9.27	77.0	509	427	5.0	24.5	(4.4)
Flowserve Corp. (FLS)	3,864	517	13.4	46.71	84.3	6,127	7,202	1.9	13.9	1.9
Franklin Electric Co. Inc. (FELE)	1,311	166	12.7	47.81	86.0	2,215	2,425	1.8	14.6	0.9
General Electric Co. (GE)	120,079	13,974	11.6	8.94	64.9	78,020	194,590	1.6	13.9	5.9
Gorman-Rupp Co. (GRC)	407	57	14.1	34.79	93.2	909	849	2.1	14.8	(1.5)
Graco Inc. (GGG)	1,640	456	27.8	46.04	85.4	7,680	7,794	4.8	17.1	0.1
IDEX Corp. (IEX)	2,503	680	27.2	163.88	94.3	12,430	12,803	5.1	18.8	0.6
Illinois Tool Works Inc. (ITW)	14,220	3,886	27.3	156.49	96.8	50,621	56,941	4.0	14.7	1.5
Ingersoll-Rand Co. Ltd. (IR)	16,343	2,462	15.1	123.21	96.0	29,765	35,247	2.2	14.3	2.2
ITT Corporation (ITT)	2,806	495	17.6	61.19	91.5	5,379	5,110	1.8	10.3	(0.7)
National Oilwell Varco, Incorporated (NOV)	8,596	138	1.6	21.20	45.5	8,181	10,431	1.2	75.6	14.2
Pentair, Inc. (PNR)	2,943	534	18.1	37.80	82.7	6,352	7,569	2.6	14.2	2.0
Roper Technologies Inc. (ROP)	5,348	1,858	34.7	356.60	92.5	37,087	41,767	7.8	22.5	3.3
Schlumberger Limited (SLB)	32,868	6,561	20.0	34.17	53.7	47,257	62,406	1.9	9.5	2.2
SPX Flow Inc. (FLOW)	2,050	251	12.3	39.46	74.4	1,680	2,291	1.1	9.1	2.2
Standex International Corp. (SXI)	795	111	14.0	72.94	66.4	907	1,013	1.3	9.1	1.3
United Technologies Corp. (UTX)	75,539	14,340	19.0	136.52	94.5	116,510	160,112	2.1	11.2	2.8
Weatherford International Ltd. (WFT)	5,398	438	8.1	0.03	1.0	28	8,047	1.5	18.4	3.1
Xylem Inc. (XYL)	5,264	939	17.8	79.62	93.2	14,334	16,672	3.2	17.8	2.3
<b>Median</b>			<b>17.4%</b>		<b>84.8%</b>			<b>2.0x</b>	<b>14.1x</b>	<b>2.0x</b>
<b>Mean</b>			<b>17.0</b>		<b>78.8</b>			<b>2.6</b>	<b>16.9</b>	<b>2.3</b>

(1) Source: S&P Capital IQ and JKC research.

(2) Revenues and EBITDA are for the latest twelve months as of 9/30/19.

(3) Total enterprise value is defined as market capitalization plus total debt less cash and cash equivalents.

(4) Net debt is defined as total debt less cash and cash equivalents.

**TABLE VIII: SELECTED INTERNATIONAL PUMP COMPANIES<sup>(1)</sup>**

(US\$ in millions, except per share data)

Company	LTM			Stock Price 9/30/2019	% of 52-Week High	Market Cap	Total Enterprise Value <sup>(3)</sup>	TEV / LTM		Net Debt <sup>(4)</sup> EBITDA
	Revenues <sup>(2)</sup>	EBITDA <sup>(2)</sup>	Margin					Revenues	EBITDA	
Alfa Laval AB (ALFA)	\$4,359	\$800	18.4%	\$19.77	77.8%	\$8,294	\$9,255	2.1x	11.6x	1.0x
Andritz AG (ANDR)	6,904	598	8.7	40.89	73.6	4,129	4,643	0.7	7.8	0.6
DMW Corp. (6365)	174	17	9.7	19.52	90.4	84	(15)	NM	NM	(4.7)
Ebara Corp. (6361)	4,681	426	9.1	26.62	71.2	2,552	2,265	0.5	5.3	(0.3)
FLSmidth & Co. A/S (FLS)	2,873	269	9.4	43.55	74.6	2,178	2,589	0.9	9.6	1.5
Gevelot SA (ALGEV)	105	12	11.4	207.17	94.1	159	(17)	NM	NM	(14.7)
GUD Holdings Ltd. (GUD)	293	61	20.8	6.78	68.5	588	679	2.3	11.1	1.5
Hyundai Heavy Industries Co. Ltd. (A009540)	11,783	234	2.0	103.44	84.6	7,315	8,332	0.7	35.7	0.4
John Wood Group plc (WG)	9,569	573	6.0	4.67	47.4	3,148	5,485	0.6	9.6	4.2
Kirloskar Brothers Ltd. (500241)	480	21	4.3	2.25	64.9	179	223	0.5	10.7	2.6
KSB Aktiengesellschaft (KSB)	2,552	164	6.4	307.49	84.9	536	570	0.2	3.5	(1.0)
Kubota Corp. (6326)	17,716	2,386	13.5	15.12	81.1	18,457	24,630	1.4	10.3	2.6
Metso Corp. (METSO)	3,731	509	13.6	37.37	86.1	5,608	6,065	1.6	11.9	0.9
Nikkiso Co. Ltd. (6376)	1,561	171	10.9	10.66	74.0	759	1,725	1.1	10.1	5.4
Pfeiffer Vacuum Technology AG (PFV)	690	105	15.3	135.97	81.9	1,341	1,320	1.9	12.5	(0.3)
SKF AB (SKF B)	8,782	1,224	13.9	16.56	90.3	7,540	8,756	1.0	7.2	0.7
Spirax-Sarco Engineering plc (SPX)	1,472	435	29.5	96.49	83.1	7,104	7,637	5.2	17.6	1.3
Sulzer, Ltd. (SUN)	3,555	351	9.9	98.37	82.5	3,350	3,849	1.1	10.9	1.4
Teikoku Electric Mfg. Co., Ltd. (6333)	209	32	15.1	10.89	65.6	215	142	0.7	4.5	(2.5)
The Weir Group PLC (WEIR)	3,338	552	16.5	17.53	78.3	4,547	6,167	1.8	11.2	3.0
Torishima Pump Manufacturing Co. Ltd. (6363)	450	32	7.0	9.03	87.3	242	213	0.5	6.7	(0.0)
Tsurumi Manufacturing Co. Ltd. (6351)	408	54	13.2	18.60	92.8	466	333	0.8	6.2	(2.4)
<b>Median</b>			11.2%		81.5%			0.9x	10.2x	0.8x
<b>Mean</b>			12.0		78.9			1.3	10.7	0.1

(1) Source: S&amp;P Capital IQ and JKC research.

(2) Revenues and EBITDA are for the latest twelve months as of 9/30/19.

(3) Total enterprise value is defined as market capitalization plus total debt less cash and cash equivalents.

(4) Net debt is defined as total debt less cash and cash equivalents.

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### Wall Street Filter Watch

The JKC Filter Stock Index was down 9.0% over the last twelve months, while the S&P 500 Index was up 1.8%.

Sales of new homes fell a modest 0.7% to a 701,000-unit pace in September. Year-to-date sales are up 7.2% compared to the same period last year. The South, the most important region for housing activity, is up an even stronger 12.8%. Lower mortgage rates are lifting demand. <sup>(1)</sup>

Housing starts fell 9.4% in September, with multifamily units tumbling 28.2% and starts of single-family homes rising 0.3%, marking their fourth consecutive increase.

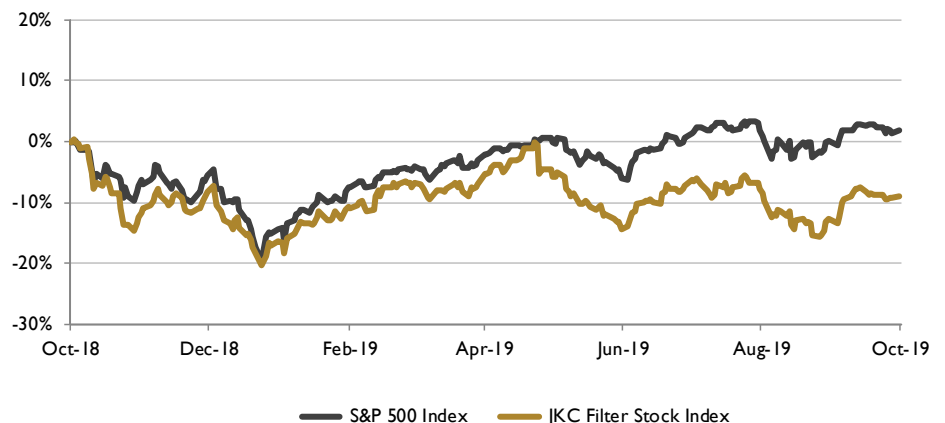
U.S. auto sales took a big step back in September after recording impressive numbers in July and August. Light vehicle sales experienced a 12% year-over-year decline in September. As September had fewer selling days than a year ago due to the Labor Day weekend, major automakers registered double-digit percentage sales declines. Hyundai's U.S. September sales fell 9%, ending its 13-month streak of year-over-year monthly gains. Subaru Corporation's U.S. sales fell 9.4% from the comparable year-ago period, snapping a streak of 93 consecutive monthly gains.

Ford's total vehicle sales in the United States declined 4.9% year over year in the third quarter, as the firm trimmed sedans from its brand. The firm's truck sales rose 8.8% in the quarter, marking the company's best performance in 14 years.

On Wall Street, the Dow Jones Industrial Average, the S&P 500 Index and the NASDAQ Composite gained 2.0%, 1.7% and 0.5%, respectively in September. The first half of the month was encouraged by the possibility of an interim trade deal and a second rate cut by The Federal Reserve Bank. However, volatility erupted in the second half due to heightened trade tensions and likelihood of the initiation of an impeachment proceeding of the President. For the third quarter, the Dow Jones Industrial Average and the S&P 500 Index gained 1.2% each while the NASDAQ Composite was down 0.1%.

**U.S. auto sales took a big step back in September after recording impressive numbers in July and August.**

**CHART III: JKC FILTER STOCK INDEX<sup>(2)</sup>**



(1) See Economic Indicators section of this report for more detailed information on these indicators.

(2) Source: S&P Capital IQ and JKC research. Local currency converted to USD using historical spot rates. The JKC Filter Stock Index includes a select list of publicly-traded companies involved in the filter industry weighted by market capitalization.



**Filter Companies**

As of September 30, 2019, domestic and international Filter companies (listed in Table IX and Table X, respectively) were trading at medians of 13.8x and 9.5x, respectively, of TEV/LTM EBITDA with median LTM EBITDA margins of 17.8% and 11.2%, respectively. With the exception of a few companies, both the domestic and international Filter companies are conservatively capitalized.

**TABLE IX: SELECTED DOMESTIC FILTER COMPANIES<sup>(1)</sup>**

(US\$ in millions, except per share data)

Company	LTM			Stock Price 9/30/2019	% of 52-Week High	Market Cap	Total Enterprise Value <sup>(3)</sup>	TEV / LTM		Net Debt <sup>(4)</sup> EBITDA
	Revenues <sup>(2)</sup>	EBITDA <sup>(2)</sup>	Margin					Revenues	EBITDA	
3M Co. (MMM)	\$31,970	\$7,920	24.8%	\$164.40	74.8%	\$94,576	\$108,515	3.4x	13.7x	1.6x
Cantel Medical Corp. (CMD)	918	163	17.7	74.80	79.7	3,107	3,293	3.6	20.3	1.1
CECO Environmental Corp. (CECE)	346	29	8.4	6.99	71.0	246	313	0.9	10.7	2.1
Corning Inc. (GLW)	11,721	2,900	24.7	28.52	79.4	22,270	30,536	2.6	10.5	2.1
Crane Co. (CR)	3,285	564	17.2	80.63	80.5	4,834	5,588	1.7	9.9	1.2
Cummins Inc. (CMI)	24,119	3,822	15.8	162.67	92.5	25,618	27,473	1.1	7.2	0.3
Donaldson Company Inc. (DCI)	2,845	469	16.5	52.08	88.3	6,570	7,045	2.5	15.0	1.0
Eaton Corporation (ETN)	21,611	3,874	17.9	83.15	93.4	34,923	42,730	2.0	11.0	2.0
Entegris, Inc. (ENTG)	1,566	422	27.0	47.06	97.2	6,361	6,827	4.4	16.2	1.7
ESCO Technologies Inc. (ESE)	813	153	18.8	79.56	92.7	2,067	2,247	2.8	14.7	1.5
General Electric Co. (GE)	120,079	13,974	11.6	8.94	64.9	78,020	194,590	1.6	13.9	5.9
Honeywell International Inc. (HON)	36,942	8,645	23.4	169.20	94.8	121,741	128,859	3.5	14.9	0.8
Illinois Tool Works Inc. (ITW)	14,220	3,886	27.3	156.49	96.8	50,621	56,941	4.0	14.7	1.5
Lydall Inc. (LDL)	854	85	10.0	24.91	56.6	437	720	0.8	8.4	3.1
Parker Hannifin Corporation (PH)	14,176	2,578	18.2	180.61	94.6	23,208	26,951	1.9	10.5	2.1
Pentair, Inc. (PNR)	2,943	534	18.1	37.80	82.7	6,352	7,569	2.6	14.2	2.0
Tenneco Inc. (TEN)	17,585	1,462	8.3	12.52	28.9	1,013	6,998	0.4	4.8	3.8
Watts Water Technologies, Inc. (WTS)	1,588	245	15.4	93.73	93.7	3,179	3,389	2.1	13.8	0.9
Xylem Inc. (XYL)	5,264	939	17.8	79.62	93.2	14,334	16,672	3.2	17.8	2.3
<b>Median</b>			<b>17.8%</b>		<b>88.3%</b>			<b>2.5x</b>	<b>13.8x</b>	<b>1.7x</b>
<b>Mean</b>			<b>17.8</b>		<b>81.9</b>			<b>2.4</b>	<b>12.7</b>	<b>1.9</b>

(1) Source: S&P Capital IQ and JKC research.

(2) Revenues and EBITDA are for the latest twelve months as of 9/30/19.

(3) Total enterprise value is defined as market capitalization plus total debt less cash and cash equivalents.

(4) Net debt is defined as total debt less cash and cash equivalents.

**TABLE X: SELECTED INTERNATIONAL FILTER COMPANIES<sup>(1)</sup>**

(US\$ in millions, except per share data)

Company	LTM			Stock Price 9/30/2019	% of 52-Week High	Market Cap	Total Enterprise Value <sup>(3)</sup>	TEV / LTM		Net Debt <sup>(4)</sup> EBITDA
	Revenues <sup>(2)</sup>	EBITDA <sup>(2)</sup>	Margin					Revenues	EBITDA	
Ahlstrom-Munksjo Oyj (AMI)	\$3,033	\$250	8.3%	\$15.31	84.3%	\$1,765	\$2,924	1.0x	11.7x	4.3x
Alfa Laval AB (ALFA)	4,359	800	18.4	19.77	77.8	8,294	9,255	2.1	11.6	1.0
Amiad Filtration Systems Ltd (AFS)	112	9	8.4	3.22	93.6	73	111	1.0	11.9	3.9
Andritz AG (ANDR)	6,904	598	8.7	40.89	73.6	4,129	4,643	0.7	7.8	0.6
Asahi Kasei Corp. (3407)	20,193	2,975	14.7	9.84	60.3	13,653	16,471	0.8	5.5	0.9
Daikin Industries Ltd. (6367)	23,180	3,588	15.5	131.18	91.9	38,373	40,684	1.8	11.3	0.4
Denso Corp. (6902)	49,547	5,557	11.2	43.93	79.3	34,044	33,653	0.7	6.1	(0.4)
Faurecia SA (EO)	19,088	1,914	10.0	47.45	82.5	6,468	9,491	0.5	5.0	1.5
FLSmidth & Co. A/S (FLS)	2,873	269	9.4	43.55	74.6	2,178	2,589	0.9	9.6	1.5
GEA Group AG (GIA)	5,306	487	9.2	27.36	81.5	4,875	4,357	0.8	8.9	(1.1)
GUD Holdings Ltd. (GUD)	293	61	20.8	6.78	68.5	588	679	2.3	11.1	1.5
Ibiden Co., Ltd. (4062)	2,707	338	12.5	20.12	96.8	2,811	2,542	0.9	7.5	(0.8)
Johnson Matthey plc (JMAT)	13,216	874	6.6	37.60	84.7	7,223	8,277	0.6	9.5	1.3
NGK Insulators Ltd. (5333)	4,226	930	22.0	14.24	81.5	4,582	5,464	1.3	5.9	1.0
Nitto Denko Corp. (6988)	7,323	1,156	15.8	48.14	58.9	7,552	5,022	0.7	4.3	(2.3)
Porvair plc (PRV)	174	22	12.9	7.48	96.5	342	338	1.9	15.1	(0.2)
Sartorius AG (SRT)	1,856	497	26.7	164.65	84.8	11,871	13,254	7.1	26.7	2.2
Siemens AG (SIE)	92,611	10,124	10.9	107.35	88.7	84,654	117,955	1.3	11.7	2.6
Toray Industries Inc. (3402)	22,039	2,470	11.2	7.42	86.6	11,872	20,132	0.9	8.1	2.9
<b>Median</b>			<b>11.2%</b>		<b>82.5%</b>			<b>0.9x</b>	<b>9.5x</b>	<b>1.0x</b>
<b>Mean</b>			<b>13.3</b>		<b>81.4</b>			<b>1.4</b>	<b>10.0</b>	<b>1.1</b>

(1) Source: S&amp;P Capital IQ and JKC research.

(2) Revenues and EBITDA are for the latest twelve months as of 9/30/19.

(3) Total enterprise value is defined as market capitalization plus total debt less cash and cash equivalents.

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Valuation Trends over Time

Quarterly median TEV/LTM EBITDA valuation multiples have remained near last quarter levels for domestic companies and have fallen for international companies. Annual multiples for domestic companies were generally higher than last year, while international companies are at lower levels than last year at this time.

CHART IV: QTRLY MEDIAN TEV/LTM EBITDA VALUATION MULTIPLES<sup>(1)</sup>

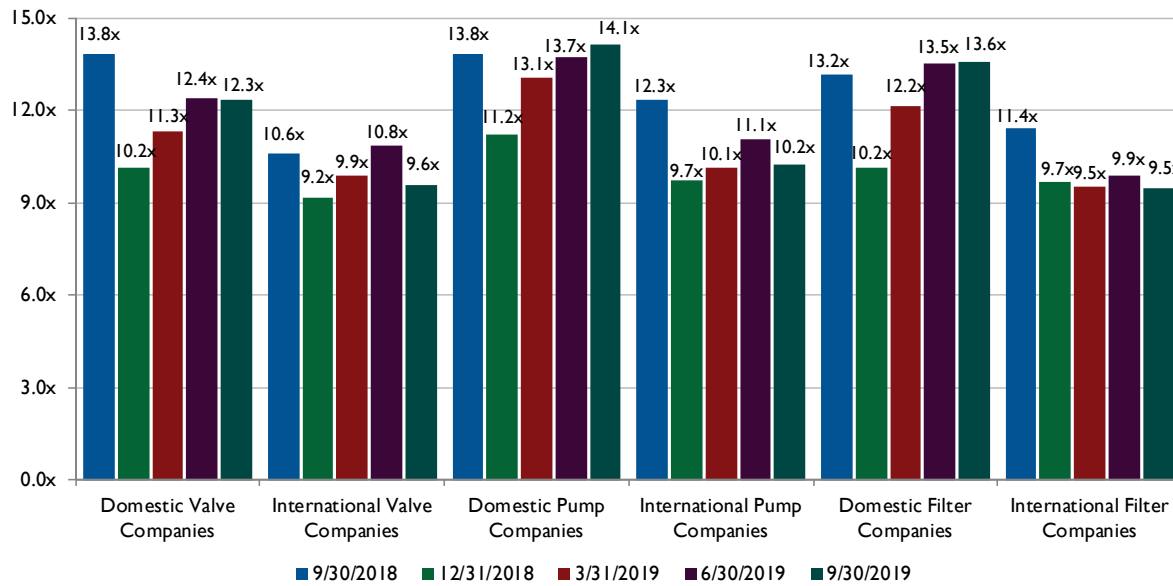
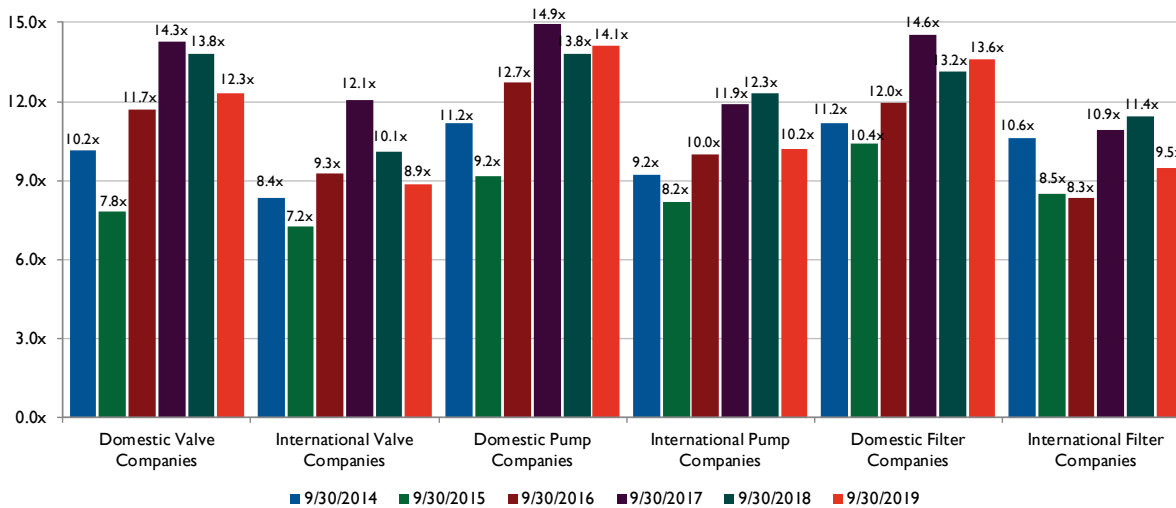


CHART V: ANNUAL MEDIAN TEV/LTM EBITDA VALUATION MULTIPLES<sup>(1)</sup>

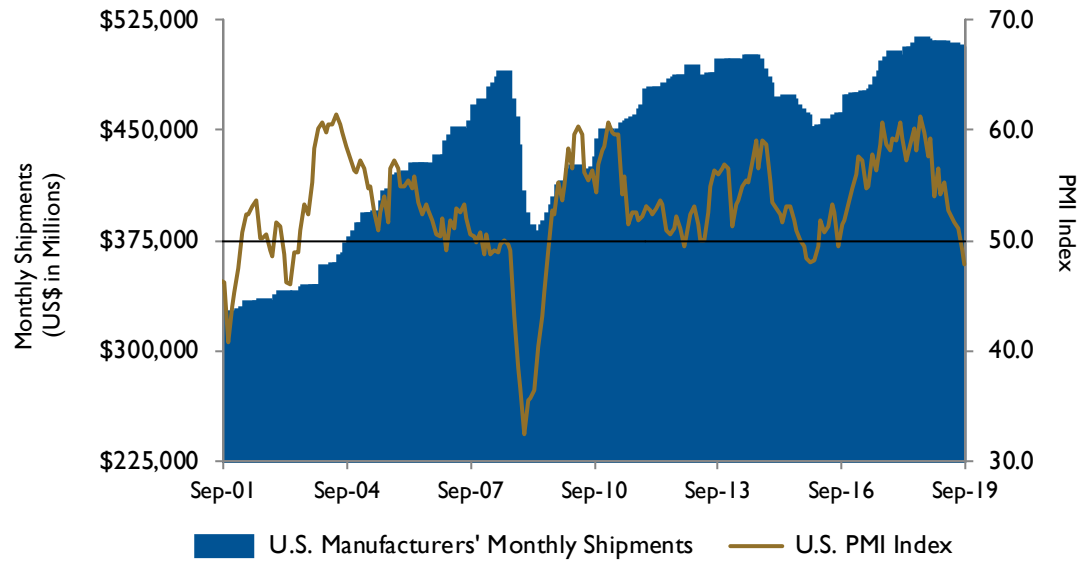


(1) Source: S&P Capital IQ and JKC research.

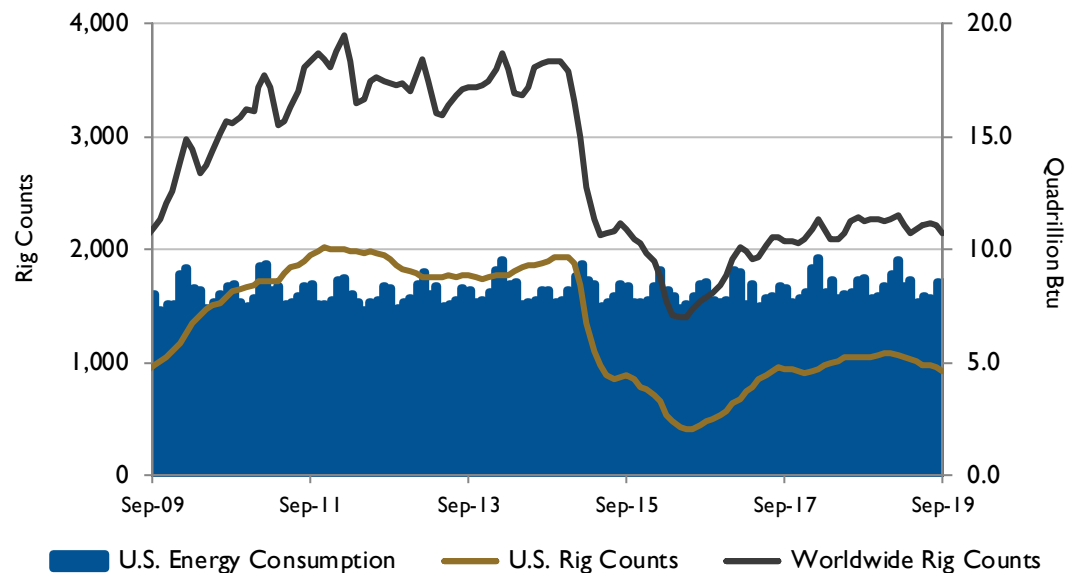
# Economic Indicators – Valves and Pumps<sup>(1)</sup>

BY DAVID A. KAKAREKA

**CHART VI: U.S. PMI INDEX<sup>(2)</sup> AND MANUFACTURING SHIPMENTS<sup>(3)</sup>**



**CHART VII: U.S. ENERGY CONSUMPTION<sup>(4)</sup> AND RIG COUNTS<sup>(5)</sup>**

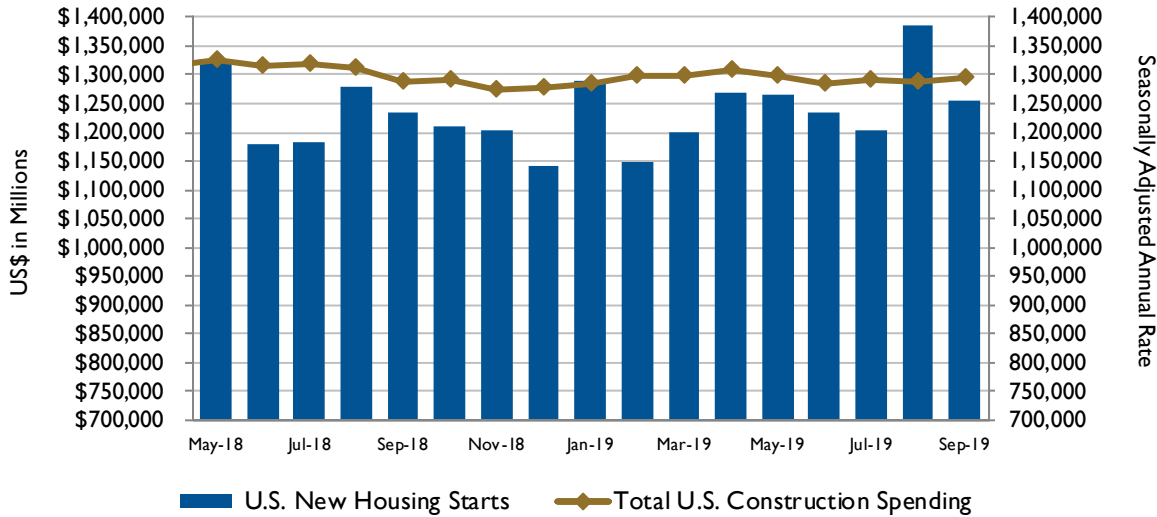


(1) Economic indicators used in Public Equity and Valuation Analysis section of this report.  
 (2) Source: Institute for Supply Management Manufacturing Report on Business®. A PMI Index above 50 represents expansion within the manufacturing sector compared with the prior month.  
 (3) Source: U.S. Census Bureau; Manufacturers' Shipments, Inventories and Orders Survey.  
 (4) Source: U.S. Energy Information Administration, Short-term Energy Outlook.  
 (5) Source: Baker Hughes Inc.

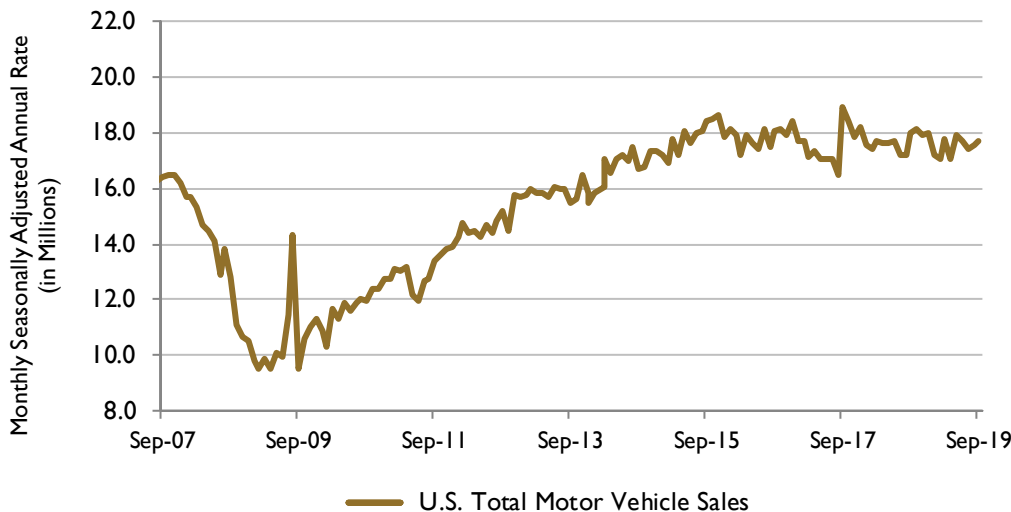
# Economic Indicators – Filters<sup>(1)</sup>

BY DAVID A. KAKAREKA

**CHART VIII: U.S. HOUSING STARTS AND CONSTRUCTION SPENDING<sup>(2)</sup>**



**CHART IX: U.S. MOTOR VEHICLE SALES<sup>(3)</sup>**



(1) Economic indicators used in Public Equity and Valuation Analysis section of this report.  
 (2) Source: U.S. Census Bureau; Manufacturing, Mining and Construction Statistics.  
 (3) Source: U.S. Department of Commerce, Bureau of Economic Analysis.

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## ABOUT JORDAN KNAUFF & COMPANY

Jordan Knauff & Company was founded in 2001 to undertake a distinct mission: to assemble and maintain a staff of top-notch investment banking personnel and offer their knowledge and experience to provide the best available investment banking services to middle-market companies, the entrepreneurs that lead them and the financial entities that transact with them. On a combined basis, over the course of their careers our employees have completed over 200 transactions as investors, owners, operators, buyers, sellers and investment bankers of middle-market businesses across a variety of industries. The majority of our firm's broad transaction experience has been with private companies owned by one shareholder, a partnership, a family or private equity investors.



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