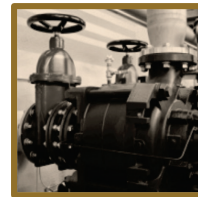


# FLOW CONTROL

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# Industry In-Sight™

THIRD QUARTER 2016



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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 300 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.

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*

### ■ **Mergers and Acquisitions Advisory**

- Selling 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.
- Acquisitions: 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.

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

■ **Capital Formation**

- **Raising 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.
- **Capital Road Map™:** Due to the day-to-day press of managing their organizations, middle-market entrepreneurs often find themselves without the time or resources to develop a capital plan for their businesses. We have learned that capital planning is a critical component of the broader strategic plan for a company and a necessity as an initial step toward the closing of a successful capital raise. We developed a proprietary Capital Road Map™ which: 1) analyzes in detail a client’s current capital situation and projects future capital requirements as measured against the functional business plan, 2) provides recommendations as to the available sources of and amounts of capital required that would best satisfy the funding requirements of the business plan and 3) describes and explains the benefits, detriments and ramifications of each.

*Due to the day-to-day press of managing their organizations, middle-market entrepreneurs often find themselves without the time or resources to develop a capital plan ...*

**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:

- |                                    |                                      |
|------------------------------------|--------------------------------------|
| ■ Flow Control                     | ■ Medical Plastics Manufacturing     |
| ■ Energy Distribution              | ■ Consumer Products                  |
| ■ Natural Resources and Renewables | ■ Education/Career Colleges          |
| ■ Windows and Doors                | ■ Financial Services                 |
| ■ Flooring                         | ■ Business and Professional Services |
| ■ Food                             | ■ Specialty Manufacturing            |
| ■ Warehousing and Logistics        | ■ Value Added Distribution           |

**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. To view our previous quarterly publications, as well as our other Flow Control related publications, visit our research portal at [www.jordanknauff.com/flowcontrol](http://www.jordanknauff.com/flowcontrol). Should 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. CALLAWAY

### *Emerson Acquires Pentair Valves & Controls*

# FLOW CONTROL TRENDS

*The acquisition enhances Emerson's Automation Solutions and Final Control businesses and supports its global participation in the control, isolation, pressure relief valve and actuation markets, ...*

The market for industrial valves was \$65 billion in 2015 and is expected to climb to \$88.4 billion by 2021, based on a recent report by Zion Research, with the oil and gas market accounting for 22% of the total. Globally, expanding offshore oil and gas projects, ongoing construction of water infrastructure in developing countries, and increasing demand from the manufacturing and the process industries, are all contributing to a forecasted compound annual growth rate of approximately 5.3% between now and 2021 for the industrial valve market. In North America, increasing pipeline installations and the replacement of old inefficient valves with more technologically advanced valves in the oil and gas transportation segment are driving the growth.

St. Louis, Missouri-based, Emerson Electric Company agreed to acquire the Valves & Controls business of Pentair plc for \$3.15 billion in cash, reflecting a trailing twelve month 2016 estimated EBITDA (earnings before interest, tax, depreciation and amortization) multiple of 14.1x and a 2016 estimated sales multiple of 1.9x. The acquisition enhances Emerson's Automation Solutions and Final Control businesses and supports its global participation in the control, isolation, pressure relief valve and actuation markets, giving Emerson a larger product portfolio to sell into large and medium projects with their key strategic customers.

Pentair's significant isolation valve business is a critical addition to Emerson's pressure relief valves. Isolation valves are important in the process market as well as being a vital component of large global projects. Pentair's valve business complements Emerson's work in the oil and gas industry due to Pentair's position in the chemical, mining and power markets. On a geographic basis, Emerson, who is stronger in the U.S. and Canada, will gain better positions in Asia Pacific and Europe through Pentair.

According to Emerson, the deal will increase the company's share of the \$105 billion process market, moving it from a 7% to 9% share; and almost double its share of the \$29 billion final control market, moving from a 7% to 13% market share.

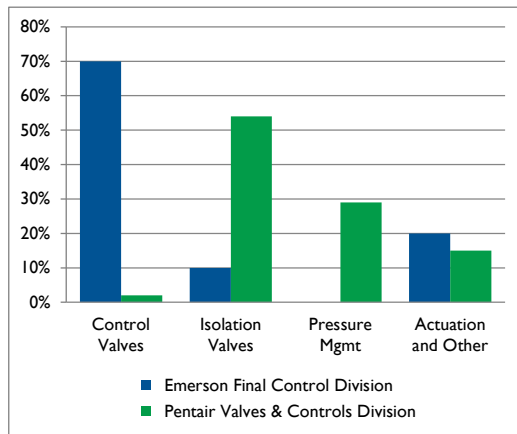
Headquartered in Switzerland, the Pentair Valves & Controls business had sales of \$1.8 billion in 2015 and almost 7,500 employees worldwide. The business designs, manufactures and services valves, fittings, automation and controls, and actuators for the industrial and energy verticals. Valves & Controls' products are used in many applications including chemical and pharmaceutical, oil and gas, power, mining, marine, and food and beverage. Its valve products include a broad range of industrial valves, including on-off valves, safety relief valves and other specialty valves. Actuation products include pneumatic, hydraulic and electric actuators. Control products include limit switches, valve positioners, network systems and accessories.

Pentair acquired the Valves & Controls business in 2012 through its all-stock merger with the flow control business of Tyco International Ltd. The divestiture will allow Pentair to focus on its priorities in water quality and availability, equipment and building protection, industrial and process efficiency, and food and beverage processing.

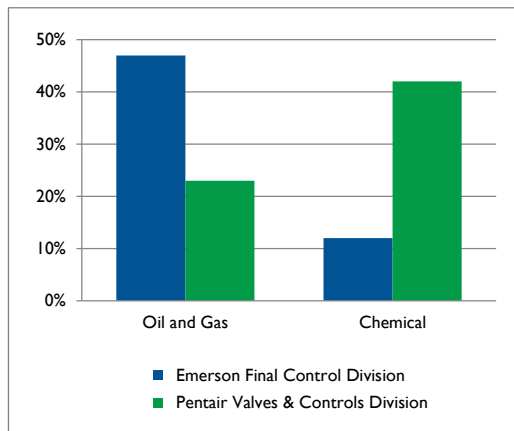
Emerson designs and manufactures products, and delivers services to industrial, commercial and consumer markets worldwide. The company is made up of five business units: Process Management, Industrial Automation, Network Power, Climate Technologies and Commercial & Residential Solutions. In 2015, the company had sales of \$22.3 billion. In early August the company announced the sale of its Network Power business for \$4.0 billion to Platinum Equity. Based in Columbus, Ohio, Network Power is a leading provider of thermal management, A/C and D/C power, transfer switches, services and information management systems for the data center and telecommunications industries.

**Emerson and Pentair Valves & Controls Complementary Market Share<sup>(1)</sup>**

**By Product**



**By Industry**



(1) Source: Emerson Electric Company.

# 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 2016<sup>(1)</sup>**

Announced Date	Target	Acquirer(s)
9/30/2016	Norvalves AS	Ham-Let (Israel Canada) Ltd.
9/15/2016	Michigan Pipe & Valve, Lansing and Flint, Michigan Meter Technology Group	Ferguson Enterprises Inc.
9/14/2016	Fortiline Waterworks	MORSCO Inc.
9/6/2016	Young & Franklin Inc.	TransDigm Group Inc.
8/18/2016	Pentair plc, Valves & Controls Business	Emerson Electric Co.
8/15/2016	SW Controls Inc.	FCX Performance Inc.
7/28/2016	SFC Koenig AG	IDEX Corporation
7/15/2016	Hiter Industria e Comercio de Controles Termo- Hidraulicos Ltda.	Spirax-Sarco Engineering plc

**TABLE III: SELECTED PUMP M&A TRANSACTIONS: 3Q 2016<sup>(1)</sup>**

Announced Date	Target	Acquirer(s)
9/5/2016	Schafer HPS GmbH, High Pressure Business	OHE Maschinenbau GmbH
8/29/2016	Morrison Pump Company Inc.	Gorman-Rupp Company
7/25/2016	Kripsol Group	Hayward Industries Inc.
7/7/2016	Power Flame Inc.	Astec Industries Inc.

**TABLE IV: SELECTED FILTER M&A TRANSACTIONS: 3Q 2016<sup>(1)</sup>**

Announced Date	Target	Acquirer(s)
8/16/2016	Blueair AB	Unilever plc
8/16/2016	PureSafe Water Systems Inc., Water Purification Unit	Phillips Mushroom Farms Inc.
8/8/2016	Delta Ultraviolet Corporation	Neptune-Benson Inc.
8/7/2016	MAHLE GmbH, Industrial Filtration Business	Filtration Group Corporation
8/2/2016	ItN Nanovation AG	Shanghai SafBon Investment Co. Ltd.
7/25/2016	Kripsol Group	Hayward Industries Inc.
7/18/2016	Standard Carbon LLC	Donau Carbon US LLC
7/13/2016	Ovivo Inc.	SKion Water International GmbH
7/7/2016	VAF Filtration Systems Ltd.	Neptune-Benson Inc.
7/6/2016	Des-Case Corporation	Industrial Growth Partners

(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 up 22.1% over the last 12 months, while the broader S&P 500 Index gained 12.7%.

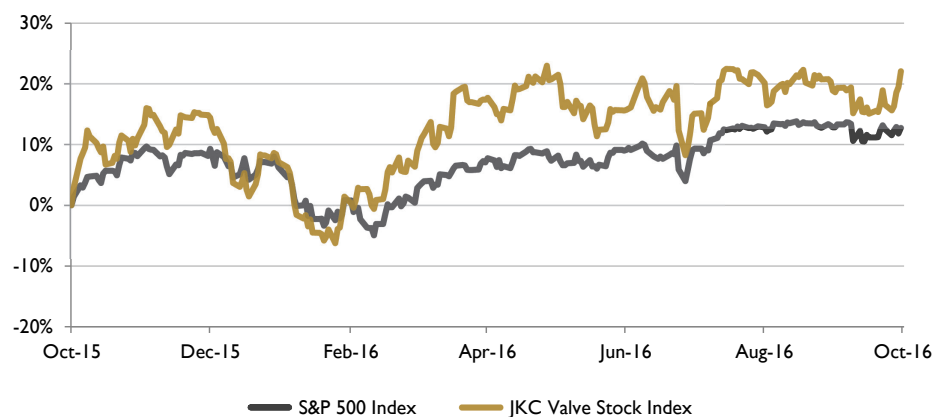
U.S. gross crude oil imports increased by 7% during the first half of the year compared to the first half of 2015, reversing a multiyear trend of decreasing oil imports due to increasing U.S. production. Narrowing price differences between U.S. crude and international prices provided an incentive for refiners to take advantage of lower delivered costs relative to similar domestic crude. In addition, lower overall crude prices contributed to a decline in U.S. crude production from an average of 9.5 million barrels per day in the first half of 2015 to 9.0 million barrels per day in the first half of this year. The U.S. Energy Information Administration expects annual imports of crude oil to increase on a net basis in both 2016 and 2017.<sup>(1)</sup>

Even though the pace of global oil inventory building is slowing, due to the continuing build on top of already high inventory levels, the U.S. Energy Information Administration expects Brent crude oil prices to remain in the \$40 to \$50 per barrel range during the next two quarters. The price of West Texas Intermediate is forecast to be \$1 per barrel lower than Brent prices in 2016 and 2017. This current price outlook could limit onshore drilling and well completions, but could be partially offset by continued increases in rig and well productivity, along with falling drilling and completion costs. The number of active rigs in the U.S. has been increasing since a low of 408 in May to reach 481 in August. There were 883 active wells in August 2015.

On Wall Street, for the third quarter the Dow, S&P 500 and NASDAQ all gained, rising 2.1%, 3.3% and 9.7%, respectively. The markets rebounded as corporate earnings were better than expected and the Federal Reserve reduced concerns over an interest rate increase. Hopes of a crude oil production freeze were increased when OPEC members agreed that they needed to decrease output.

**U.S. gross crude oil imports increased by 7% during the first half of the year compared to the first half of 2015, reversing a multiyear trend of decreasing oil imports due to increasing U.S. production.**

**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, 2016, domestic and international Valve companies were trading at median total enterprise value / latest twelve months (“TEV/LTM”) EBITDA multiples of 12.5x and 9.3x, respectively, while both groups have median EBITDA margins of 16.7% and 11.2%, respectively. The median stock price as a percentage of the 52-week high for both groups is 95% and 91%, 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 9/30/2016	% 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)	396	73	18.5	33.51	85.1	975	1,021	2.6	13.9	0.5
CIRCOR International Inc. (CIR)	621	73	11.8	59.56	94.7	978	1,003	1.6	13.7	0.3
Crane Co. (CR)	2,747	464	16.9	63.01	95.6	3,680	4,128	1.5	8.9	0.7
Curtiss-Wright Corp. (CWV)	2,132	407	19.1	91.11	99.4	4,047	4,632	2.2	11.4	1.3
Dover Corp. (DOV)	6,711	1,157	17.2	73.64	98.3	11,430	14,126	2.1	12.2	2.3
Emerson Electric Co. (EMR)	14,522	3,111	21.4	54.51	95.9	35,079	38,899	2.7	12.5	1.1
Flowserve Corp. (FLS)	4,205	532	12.7	48.24	91.9	6,290	7,656	1.8	14.4	2.5
FMC Technologies, Inc. (FTI)	4,878	517	10.6	29.67	82.6	6,694	6,962	1.4	13.5	0.4
General Electric Co. (GE)	123,158	16,544	13.4	29.62	89.8	265,432	416,706	3.4	25.2	8.4
Honeywell International Inc. (HON)	39,299	7,828	19.9	116.59	97.1	88,710	95,948	2.4	12.3	0.9
ITT Corporation (ITT)	2,484	396	16.0	35.84	88.5	3,211	2,978	1.2	7.5	(0.6)
Mueller Water Products, Inc. (MWA)	1,139	190	16.7	12.55	93.0	2,029	2,370	2.1	12.5	1.5
Parker Hannifin Corporation (PH)	11,235	1,613	14.4	125.53	99.2	16,792	17,729	1.6	11.0	0.7
Schlumberger Limited (SLB)	28,447	6,955	24.4	78.64	93.7	109,364	120,199	4.2	17.3	1.5
SPX Flow Inc. (FLOW)	2,236	234	10.5	30.92	73.5	1,293	2,112	0.9	9.0	3.5
Watts Water Technologies, Inc. (WTS)	1,440	141	9.8	64.84	98.2	2,217	2,536	1.8	18.0	2.3
Xylem Inc. (XYL)	3,670	616	16.8	52.45	99.5	9,398	10,046	2.7	16.3	0.9
<b>Median</b>			<b>16.7%</b>		<b>94.7%</b>			<b>2.1x</b>	<b>12.5x</b>	<b>1.1x</b>
<b>Mean</b>			<b>15.9</b>		<b>92.7</b>			<b>2.1</b>	<b>13.5</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 9/30/16.

(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 9/30/2016	% 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)	2,817	432	15.3	34.11	94.8	3,772	4,741	1.7	11.0	2.2
Alfa Laval AB (ALFA)	4,394	791	18.0	15.70	82.9	6,584	8,085	1.8	10.2	1.8
Georg Fischer AG (FI-N)	3,837	428	11.2	876.67	99.1	3,587	4,041	1.1	9.4	0.9
Hisaka Works Ltd. (6247)	239	23	9.6	8.39	79.1	251	134	0.6	5.8	(5.4)
Hitachi Ltd. (6501)	97,267	11,112	11.4	4.63	62.1	22,340	62,196	0.6	5.6	2.4
IMI plc (IMI)	2,029	351	17.3	13.99	96.7	3,765	4,216	2.1	12.0	1.2
Kitz Corp. (6498)	1,142	119	10.4	5.50	93.5	577	703	0.6	5.9	0.9
KSB Aktiengesellschaft (KSB)	2,592	185	7.1	414.97	88.6	728	822	0.3	4.4	(0.4)
Kubota Corp. (6326)	16,008	2,713	16.9	14.94	71.0	18,573	24,617	1.5	9.1	2.2
Lupatech S.A. (LUPA3)	60	(50)	(83.1)	1.85	48.0	17	163	2.7	NM	(2.0)
Metso Corp. (METSO)	3,042	109	3.6	29.19	99.0	4,378	4,596	1.5	42.1	0.8
Okano Valve Manufacturing Co. (6492)	74	6	8.2	2.60	69.8	45	25	0.3	4.1	(3.1)
Saint Gobain (SGO)	44,188	4,504	10.2	43.24	91.3	23,950	31,800	0.7	7.1	1.6
SMC Corp. (6273)	4,629	1,462	31.6	285.26	85.2	19,167	15,884	3.4	10.9	(2.5)
Spirax-Sarco Engineering plc (SPX)	900	231	25.7	58.53	98.5	4,291	4,265	4.7	18.4	(0.1)
The Weir Group PLC (WEIR)	2,347	360	15.3	22.14	99.6	4,786	5,912	2.5	16.4	3.2
Velan, Inc. (VLN)	400	37	9.3	13.71	93.7	298	223	0.6	6.0	(1.8)
<b>Median</b>			11.2%		91.3%			1.5x	9.3x	0.9x
<b>Mean</b>			8.1		85.5			1.6	11.2	0.1

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

(2) Revenues and EBITDA are for the latest twelve months as of 9/30/16.

(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 rose 11.5% over the last twelve months, while the S&P 500 Index gained 12.7% over the same time period.

The Institute for Supply Management’s Purchasing Managers’ Index (“PMI”) increased to 51.5% in September from 49.4% in August. The New Orders Index rose 6.0 percentage points during the month, moving from 49.1% to 55.1%. The Production Index also grew 3.2 percentage points, reaching 52.8% for the month. All three of these indices moved from contraction to expansion territory. Survey respondents were mostly positive. A fabricated metals product maker wrote “Sales on the increase and positive outlook for the remainder of 2016.” The average reading of the PMI over the last twelve months ending in September was 50.3%.<sup>(1)</sup>

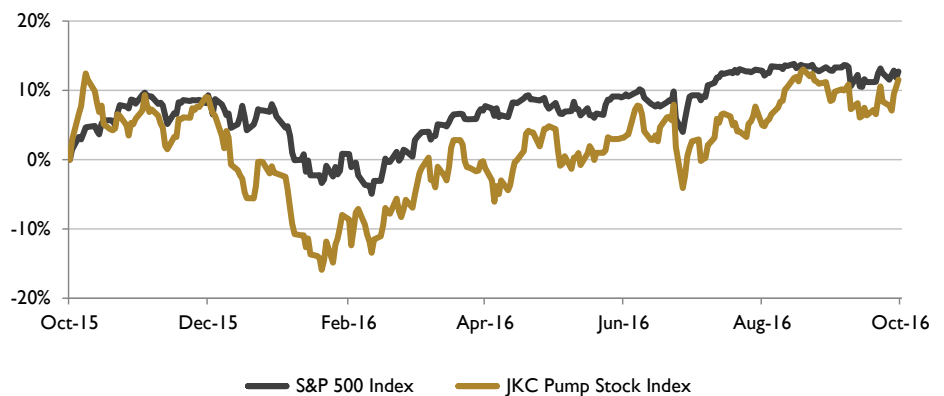
The Bureau of Labor Statistics reported that the U.S. economy added 151,000 jobs in August, more than 100,000 less than the number of jobs created in both July (275,000) and June (271,000) of this year. Education and health services jobs rose 39,000, while manufacturing lost 14,000. All but four of the 19 major manufacturing sectors had reduced employment, with the largest declines in transportation equipment, primary metals and nonmetallic mineral products. Employment gains were shown in food manufacturing, paper and paper products, and machinery.

New factory orders rose 0.3% in September, led by sales of nondurable goods which increased 0.9%. New orders for durable goods excluding transportation were up 0.1%. Demand was strong for motor vehicles and parts (up 2.6%), furniture (up 1.2%), machinery (up 1.1%) and electrical equipment and appliances (up 0.9%). Weaker segments included computers (down 0.9%), fabricated metal products (down 0.6%) and primary metals (down 0.3%).

On Wall Street, for the third quarter the Dow, S&P 500 and NASDAQ all gained, rising 2.1%, 3.3% and 9.7%, respectively. The markets rebounded as corporate earnings were better than expected and the Federal Reserve reduced concerns over an interest rate increase. Hopes of a crude oil production freeze were increased when OPEC members agreed that they needed to decrease output.

**New factory orders rose 0.3% in September, led by sales of nondurable goods which increased 0.9%.**

**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 12.5x and 10.0x, respectively, as of September 30, 2016. As you can see, both groups are similarly leveraged with a median net debt/LTM EBITDA ratio of 1.5x for domestic Pump companies compared to 0.9x 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 9/30/2016	% 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)	295	3	0.9	11.09	57.7	136	146	0.5	53.3	0.4
Baker Hughes Inc. (BHI)	10,825	3	0.0	50.47	86.7	21,596	20,795	1.9	6,932	(238.0)
Colfax Corporation (CFX)	3,775	478	12.7	31.43	93.5	3,855	5,269	1.4	11.0	2.5
Crane Co. (CR)	2,747	464	16.9	63.01	95.6	3,680	4,128	1.5	8.9	0.7
Curtiss-Wright Corp. (CW)	2,132	407	19.1	91.11	99.4	4,047	4,632	2.2	11.4	1.3
Danaher Corp. (DHR)	22,751	5,435	23.9	78.39	76.3	54,131	64,761	2.8	11.9	1.4
Dover Corp. (DOV)	6,711	1,157	17.2	73.64	98.3	11,430	14,126	2.1	12.2	2.3
Energy Recovery, Inc. (ERII)	53	(1)	(0.9)	15.98	95.9	832	738	13.9	NM	NM
Flowserve Corp. (FLS)	4,205	532	12.7	48.24	91.9	6,290	7,656	1.8	14.4	2.5
Franklin Electric Co. Inc. (FELE)	922	142	15.4	40.71	99.4	1,881	2,032	2.2	14.3	1.0
General Electric Co. (GE)	123,158	16,544	13.4	29.62	89.8	265,432	416,706	3.4	25.2	8.4
Gorman-Rupp Co. (GRC)	387	51	13.3	25.61	78.6	668	619	1.6	12.1	(1.2)
Graco Inc. (GGG)	1,306	345	26.4	74.00	85.4	4,120	4,519	3.5	13.1	0.9
IDEX Corp. (IEX)	2,082	526	25.3	93.57	98.2	7,124	7,818	3.8	14.9	1.6
Illinois Tool Works Inc. (ITW)	13,475	3,472	25.8	119.84	97.0	42,538	47,351	3.5	13.6	1.6
Ingersoll-Rand Co. Ltd. (IR)	13,476	1,938	14.4	67.94	98.5	17,528	20,749	1.5	10.7	1.3
ITT Corporation (ITT)	2,484	396	16.0	35.84	88.5	3,211	2,978	1.2	7.5	(0.6)
Layne Christensen Co. (LAYN)	651	25	3.8	8.51	89.0	169	270	0.4	10.8	4.1
National Oilwell Varco, Incorporated (NOV)	8,281	19	0.2	36.74	86.2	13,874	15,561	1.9	819.0	89.8
Pentair, Inc. (PNR)	6,824	1,281	18.8	64.24	95.9	11,634	16,012	2.3	12.5	3.3
Roper Technologies Inc. (ROP)	3,723	1,283	34.5	182.47	93.1	18,492	20,961	5.6	16.3	1.7
Schlumberger Limited (SLB)	28,447	6,955	24.4	78.64	93.7	109,364	120,199	4.2	17.3	1.5
SPX Flow Inc. (FLOW)	2,236	234	10.5	30.92	73.5	1,293	2,112	0.9	9.0	3.5
Standex International Corp. (SXI)	733	95	13.0	92.87	99.5	1,187	1,157	1.6	12.1	(0.2)
United Technologies Corp. (UTX)	56,885	10,362	18.2	101.60	92.5	85,032	102,656	1.8	9.9	1.5
Weatherford International Ltd. (WFT)	6,355	(160)	(2.5)	5.62	48.9	5,036	11,881	1.9	NM	NM
Xylem Inc. (XYL)	3,670	616	16.8	52.45	99.5	9,398	10,046	2.7	16.3	0.9
<b>Median</b>			15.4%		93.1%			1.9x	12.5x	1.5x
<b>Mean</b>			14.4		89.0			2.7	323.6	(4.3)

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

(2) Revenues and EBITDA are for the latest twelve months as of 9/30/16.

(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 9/30/2016	% 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)	4,394	791	18.0	15.70	82.9	6,584	8,085	1.8	10.2	1.8
Andritz AG (ANDR)	6,896	592	8.6	54.47	96.0	5,573	4,744	0.7	8.0	(1.6)
DMW Corp. (6365)	185	17	9.1	17.68	90.5	78	25	0.1	1.5	(2.4)
Ebara Corp. (6361)	4,826	521	10.8	29.36	96.2	2,731	2,731	0.6	5.2	0.2
FLSmidth & Co. A/S (FLS)	2,687	237	8.8	37.62	88.1	1,840	2,425	0.9	10.2	2.0
Gevelot SA (ALGEV)	233	17	7.3	132.64	83.1	109	8	0.0	0.5	(6.5)
GUD Holdings Ltd. (GUD)	456	60	13.1	8.07	98.2	692	847	1.9	14.2	2.1
Hyundai Heavy Industries Co. Ltd. (A009540)	38,365	640	1.7	125.48	95.8	7,837	16,081	0.4	25.1	10.0
John Wood Group plc (WG)	4,412	372	8.4	9.89	96.8	3,679	4,063	0.9	10.9	1.0
Kirloskar Brothers Ltd. (500241)	389	10	2.5	2.45	74.7	195	241	0.6	25.0	4.8
KSB Aktiengesellschaft (KSB)	2,592	185	7.1	414.97	88.6	728	822	0.3	4.4	(0.4)
Kubota Corp. (6326)	16,008	2,713	16.9	14.94	71.0	18,573	24,617	1.5	9.1	2.2
Metso Corp. (METSO)	3,042	109	3.6	29.19	99.0	4,378	4,596	1.5	42.1	0.8
Nikkiso Co. Ltd. (6376)	1,491	155	10.4	8.91	87.9	634	1,055	0.7	6.8	2.3
Pfeiffer Vacuum Technology AG (PFV)	506	88	17.5	95.91	72.6	946	869	1.7	9.8	(1.0)
SKF AB (SKF B)	8,482	1,032	12.2	17.28	89.2	7,872	9,640	1.1	9.3	1.5
Spirax-Sarco Engineering plc (SPX)	900	231	25.7	58.53	98.5	4,291	4,265	4.7	18.4	(0.1)
Sulzer, Ltd. (SUN)	3,052	312	10.2	104.79	89.5	3,570	3,518	1.2	11.3	(0.2)
Teikoku Electric Mfg.Co.,Ltd. (6333)	204	31	15.1	8.04	83.7	164	82	0.4	2.7	(2.7)
The Weir Group PLC (WEIR)	2,347	360	15.3	22.14	99.6	4,786	5,912	2.5	16.4	3.2
Torishima Pump Manufacturing Co. Ltd. (6363)	397	14	3.4	10.40	88.6	284	339	0.9	25.1	3.6
Tsurumi Manufacturing Co. Ltd. (6351)	386	55	14.1	15.48	68.4	388	301	0.8	5.5	(1.7)
<b>Median</b>			<b>10.3%</b>		<b>88.9%</b>			<b>0.9x</b>	<b>10.0x</b>	<b>0.9x</b>
<b>Mean</b>			<b>10.9</b>		<b>88.1</b>			<b>1.2</b>	<b>12.4</b>	<b>0.8</b>

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

(2) Revenues and EBITDA are for the latest twelve months as of 9/30/16.

(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 up 22.2% over the last twelve months, while the S&P 500 Index gained 12.7%.

The Commerce Department reported that single-family housing starts rose 8.1% in September over August, with year-to-date January to September starts up almost 10% over the year-to-date total in 2015. On a January to September basis compared to last year, all regions of the country posted gains in single-family housing starts with the Northeast and Midwest rising 12% each, the South up 8% and the West up 6%. Single-family building permits are more than 8% higher year-to-date over the same time last year.<sup>(1)</sup>

Multifamily housing starts fell 38% in September on a monthly basis. Multifamily building permits are down 11% on a year-to-date basis compared to 2015.

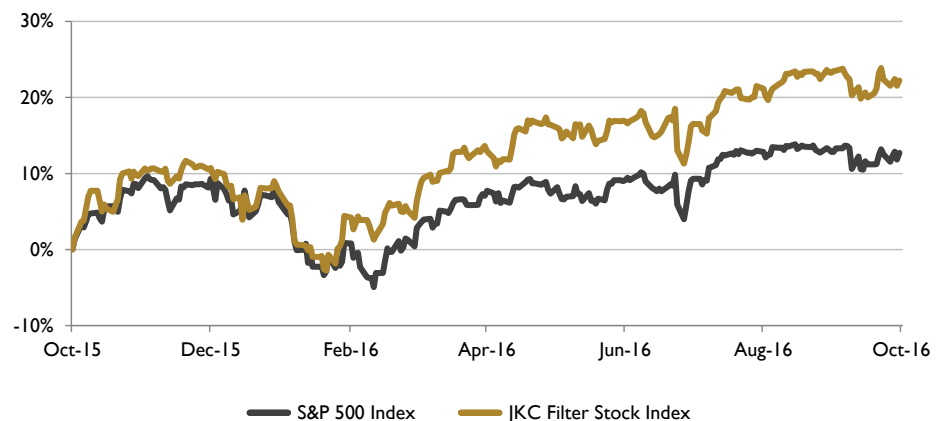
The National Association of Realtors reported that the Pending Home Sales Index, which is based on contract signings and usually leads existing home sales by one or two months, increased 1.3% in July to 111.3, its second highest level since 2010. Mortgage purchase applications rose 1.3% in August and are up 4.8% year-to-year.

Despite a 7.8% increase in discounts per vehicle compared to a year earlier, U.S. auto sales fell slightly in September declining 0.5% to 1.44 million units. This translates to an annualized selling rate of 17.76 million vehicles. With one quarter to go, the industry is expected to be close to achieving 2015's record sales performance of 17.5 million vehicles. Sales at GM, Ford and Fiat Chrysler all fell during the month, while Toyota Motor and Nissan Group posted U.S. sales increases. Honda's sales were flat.

On Wall Street, for the third quarter the Dow, S&P 500 and NASDAQ all gained, rising 2.1%, 3.3% and 9.7%, respectively. The markets rebounded as corporate earnings were better than expected and the Federal Reserve reduced concerns over an interest rate increase. Hopes of a crude oil production freeze were increased when OPEC members agreed that they needed to decrease output.

**Single-family building permits are more than 8% higher year-to-date over the same time last year.**

**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, 2016, domestic and international Filter companies (listed in Table IX and Table X, respectively) were trading at medians of 12.3x and 8.3x, respectively, of TEV/LTM EBITDA with median LTM EBITDA margins of 16.8% and 12.0%, 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 9/30/2016	% 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)	30,078	8,659	28.8	176.23	96.7	106,513	116,445	3.9	13.4	1.1
Calgon Carbon Corp. (CCC)	508	81	16.0	15.17	83.3	768	826	1.6	10.2	0.6
Cantel Medical Corp. (CMN)	663	126	18.9	77.98	95.5	3,252	3,340	5.0	26.6	0.7
CECO Environmental Corp. (CECE)	418	53	12.6	11.28	96.0	385	497	1.2	9.4	2.1
CLARCOR Inc. (CLC)	1,385	251	18.2	65.00	97.6	3,160	3,359	2.4	13.4	0.8
Corning Inc. (GLW)	9,145	2,322	25.4	23.65	99.3	24,522	23,938	2.6	10.3	(0.4)
Crane Co. (CR)	2,747	464	16.9	63.01	95.6	3,680	4,128	1.5	8.9	0.7
Cummins Inc. (CMI)	18,205	2,664	14.6	128.15	99.7	21,522	22,447	1.2	8.4	0.2
Donaldson Company Inc. (DCI)	2,220	365	16.4	37.33	96.6	4,953	5,282	2.4	14.5	0.9
Eaton Corporation (ETN)	19,937	3,267	16.4	65.71	96.3	29,878	37,885	1.9	11.6	2.4
El DuPont de Nemours & Co. (DD)	24,682	4,646	18.8	66.97	88.4	58,554	64,256	2.6	13.8	1.3
Entegris, Inc. (ENTG)	1,107	234	21.1	17.42	98.3	2,460	2,718	2.5	11.6	1.1
ESCO Technologies Inc. (ESE)	571	101	17.7	46.42	98.0	1,194	1,240	2.2	12.3	0.6
General Electric Co. (GE)	123,158	16,544	13.4	29.62	89.8	265,432	416,706	3.4	25.2	8.4
Honeywell International Inc. (HON)	39,299	7,828	19.9	116.59	97.1	88,710	95,948	2.4	12.3	0.9
Illinois Tool Works Inc. (ITW)	13,475	3,472	25.8	119.84	97.0	42,538	47,351	3.5	13.6	1.6
Lydall Inc. (LDL)	554	82	14.8	51.13	95.9	876	804	1.5	9.8	0.2
MFRI Inc. (MFR)	123	9	7.0	7.66	91.5	58	58	0.5	6.7	0.1
Parker Hannifin Corporation (PH)	11,235	1,613	14.4	125.53	99.2	16,792	17,729	1.6	11.0	0.7
Pentair, Inc. (PNR)	6,824	1,281	18.8	64.24	95.9	11,634	16,012	2.3	12.5	3.3
Tenneco Inc. (TEN)	8,475	818	9.7	58.27	98.8	3,297	4,429	0.5	5.4	1.4
Watts Water Technologies, Inc. (WTS)	1,440	141	9.8	64.84	98.2	2,217	2,536	1.8	18.0	2.3
Xylem Inc. (XYL)	3,670	616	16.8	52.45	99.5	9,398	10,046	2.7	16.3	0.9
<b>Median</b>			<b>16.8%</b>		<b>96.7%</b>			<b>2.3x</b>	<b>12.3x</b>	<b>0.9x</b>
<b>Mean</b>			<b>17.0</b>		<b>95.8</b>			<b>2.2</b>	<b>12.8</b>	<b>1.4</b>

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

(2) Revenues and EBITDA are for the latest twelve months as of 9/30/16.

(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 9/30/2016	% 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 Oyj (AHLIV)	1,201	109	9.1	13.90	99.8	648	833	0.7	7.7	1.3
Alfa Laval AB (ALFA)	4,394	791	18.0	15.70	82.9	6,584	8,085	1.8	10.2	1.8
Amiad Filtration Systems Ltd (AFS)	110	9	8.5	1.82	75.7	41	51	0.5	5.5	1.1
Andritz AG (ANDR)	6,896	592	8.6	54.47	96.0	5,573	4,744	0.7	8.0	(1.6)
Asahi Kasei Corp. (3407)	18,804	2,667	14.2	7.91	85.7	11,044	14,159	0.8	5.3	1.0
BWT AG (BWT)	653	57	8.7	24.73	99.8	414	425	0.7	7.5	0.0
Daikin Industries Ltd. (6367)	20,237	3,085	15.2	92.33	96.6	26,969	30,649	1.5	9.9	0.9
Denso Corp. (6902)	44,545	5,345	12.0	39.50	66.1	31,301	29,500	0.7	5.5	(0.6)
Faurecia SA (EO)	21,147	1,511	7.1	39.23	93.3	5,383	6,638	0.3	4.4	0.7
FLSmidth & Co. A/S (FLS)	2,687	237	8.8	37.62	88.1	1,840	2,425	0.9	10.2	2.0
GEA Group AG (GIA)	5,104	569	11.1	55.67	99.0	10,716	9,872	1.9	17.4	(1.5)
GUD Holdings Ltd. (GUD)	456	60	13.1	8.07	98.2	692	847	1.9	14.2	2.1
Hyflux Ltd. (600)	586	71	12.1	0.35	64.2	274	942	1.6	13.3	13.7
Ibiden Co., Ltd. (4062)	3,015	586	19.4	13.31	65.5	1,771	1,528	0.5	2.6	(0.5)
Johnson Matthey plc (JMAT)	13,951	747	5.4	42.89	97.2	8,224	9,090	0.7	12.2	1.6
NGK Insulators Ltd. (5333)	4,248	1,082	25.5	20.53	71.1	6,602	6,788	1.6	6.3	(0.1)
Nitto Denko Corp. (6988)	7,487	1,320	17.6	64.24	72.6	10,427	8,240	1.1	6.2	(1.7)
Porvair plc (PRV)	132	15	11.6	5.20	99.0	234	225	1.7	14.6	(0.7)
Sartorius AG (SRT)	1,354	332	24.5	80.37	80.6	5,595	6,274	4.6	18.9	1.6
Siemens AG (SIE)	88,820	10,629	12.0	117.35	95.8	94,892	112,323	1.3	10.6	1.3
Toray Industries Inc. (3402)	20,594	2,637	12.8	9.67	85.4	15,459	21,981	1.1	8.3	2.1
<b>Median</b>			12.0%		88.1%			1.1x	8.3x	1.0x
<b>Mean</b>			13.1		86.3			1.3	9.5	1.2

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

(2) Revenues and EBITDA are for the latest twelve months as of 9/30/16.

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Valuation Trends over Time

Quarterly median TEV/LTM EBITDA valuation multiples have generally increased over last quarter levels for domestic companies and international companies. Annual multiples for domestic and international companies are now at higher levels than last year at this time.

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

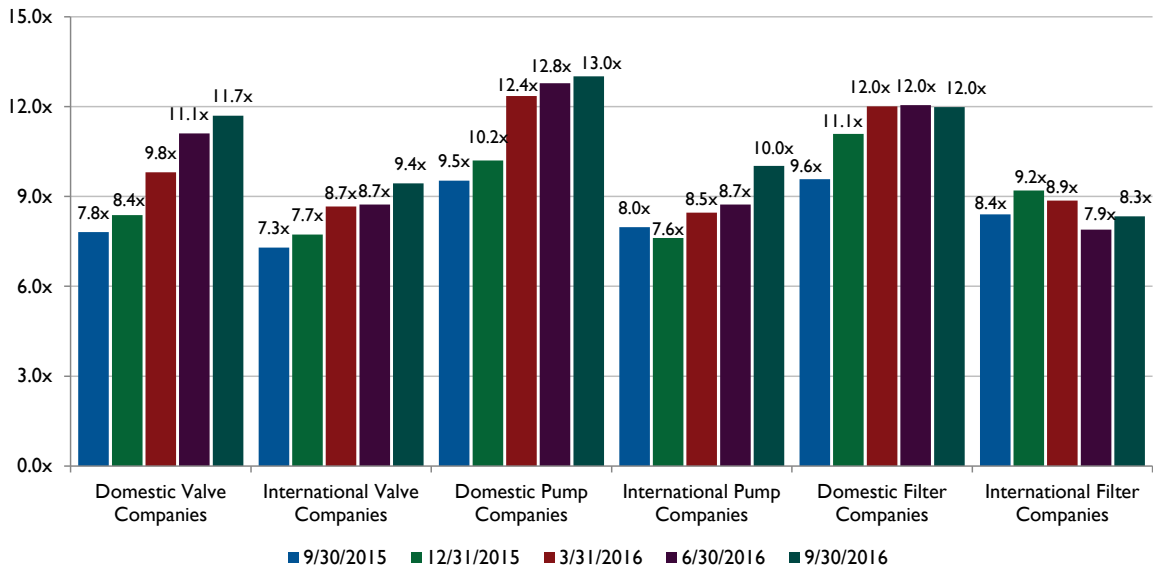
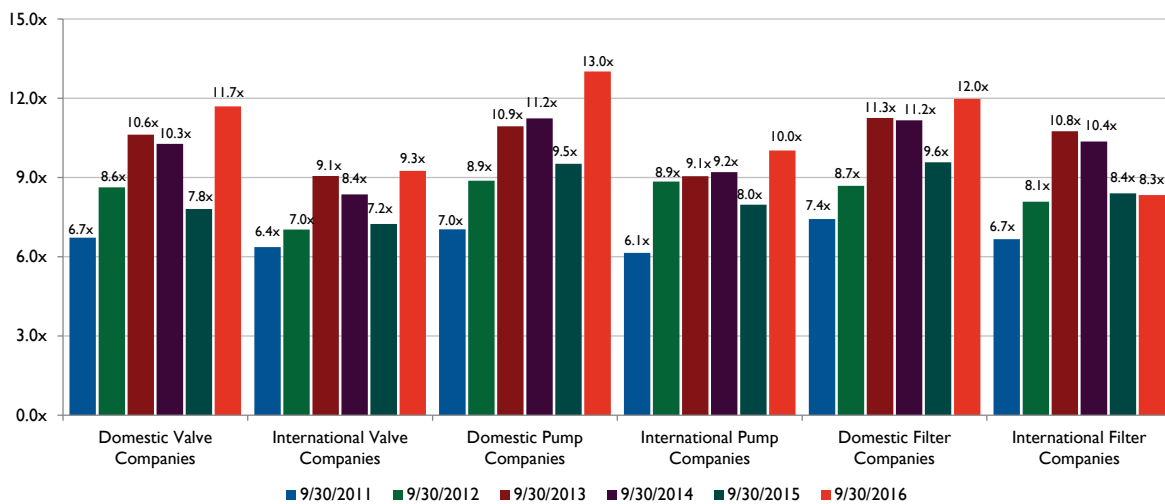


CHART V: ANNUAL MEDIAN TEV/LTM EBITDA VALUATION MULTIPLES<sup>(1)</sup>

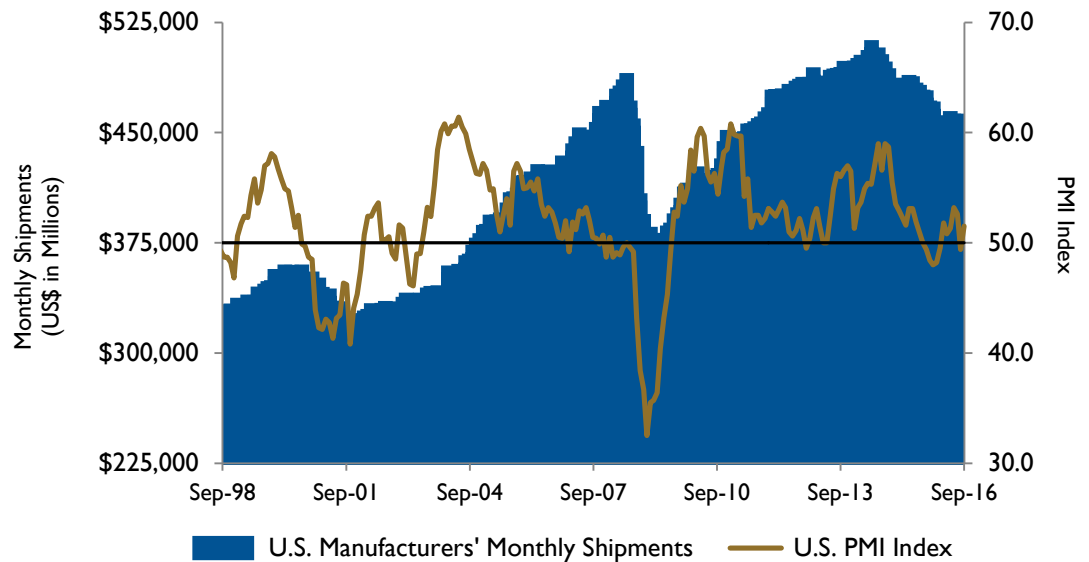


(1) Source: S&P Capital IQ and JKC research.

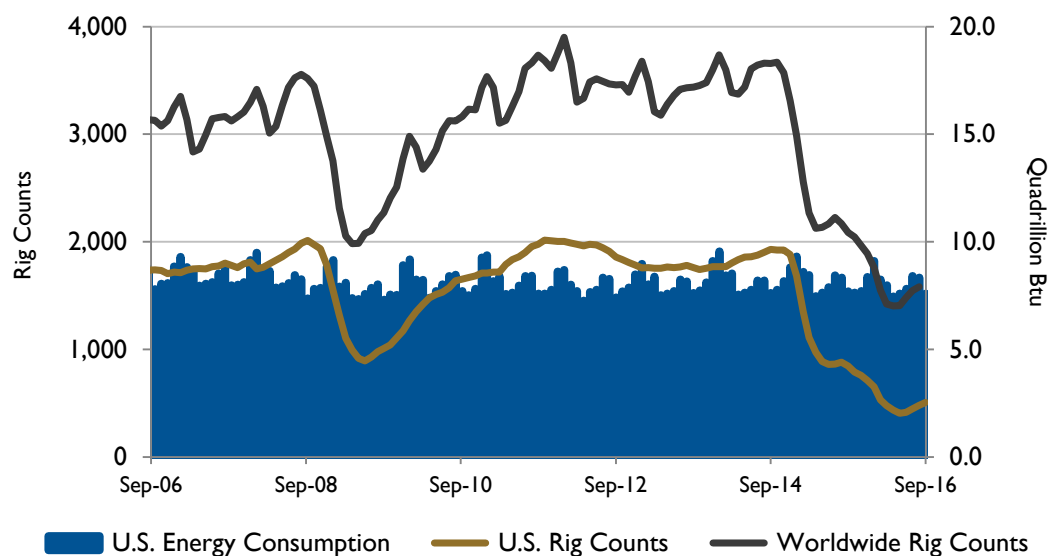
# Economic Indicators – Valves and Pumps<sup>(1)</sup>

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>**

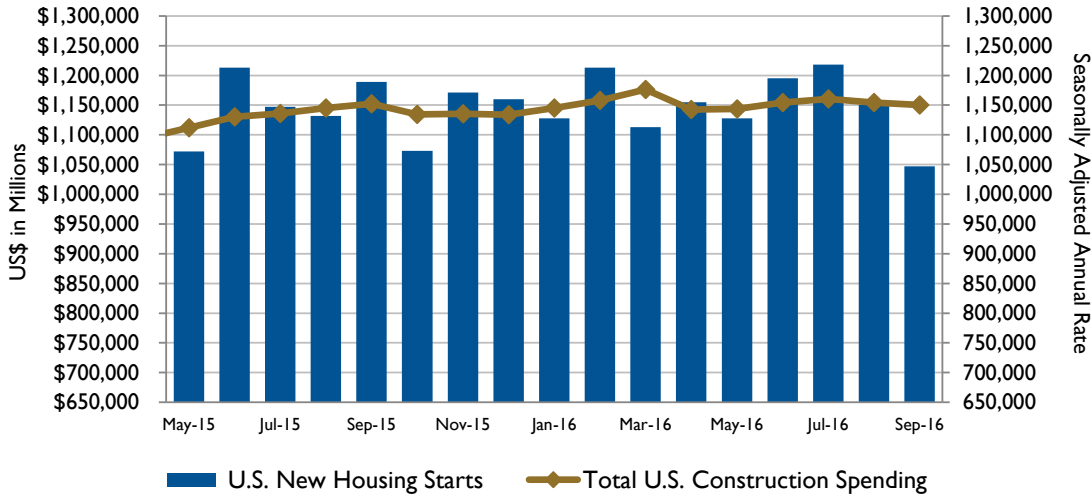


(1) Economic indicators used in Public Equity and Valuation Analysis section of this report.  
 (2) Source: Institute for Supply Management Manufacturing Report on Business®. A PMI Index above 50 represents expansion within the manufacturing sector compared with the prior month.  
 (3) Source: U.S. Census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

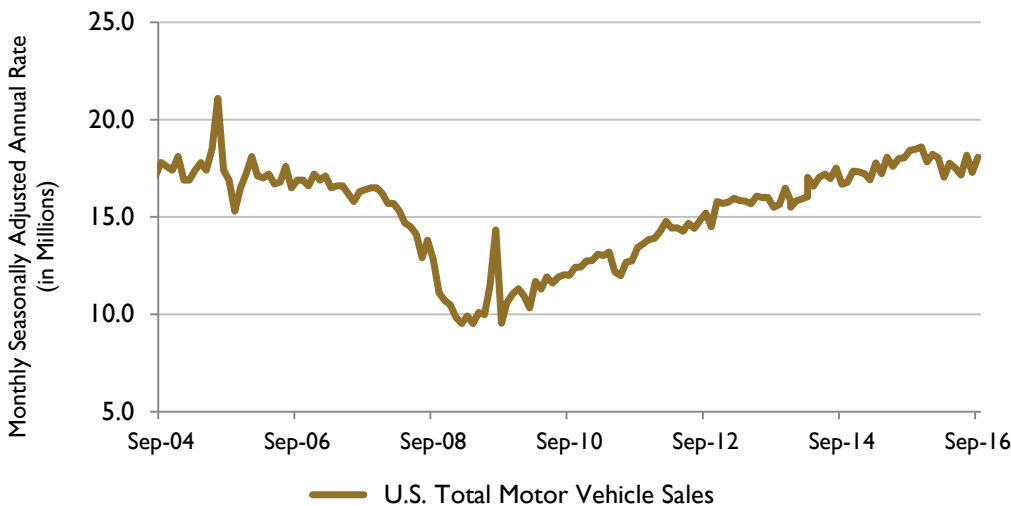
# Economic Indicators – Filters<sup>(1)</sup>

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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