



FLUID POWER:
Hydraulic Cylinder Sector Report

October 2021



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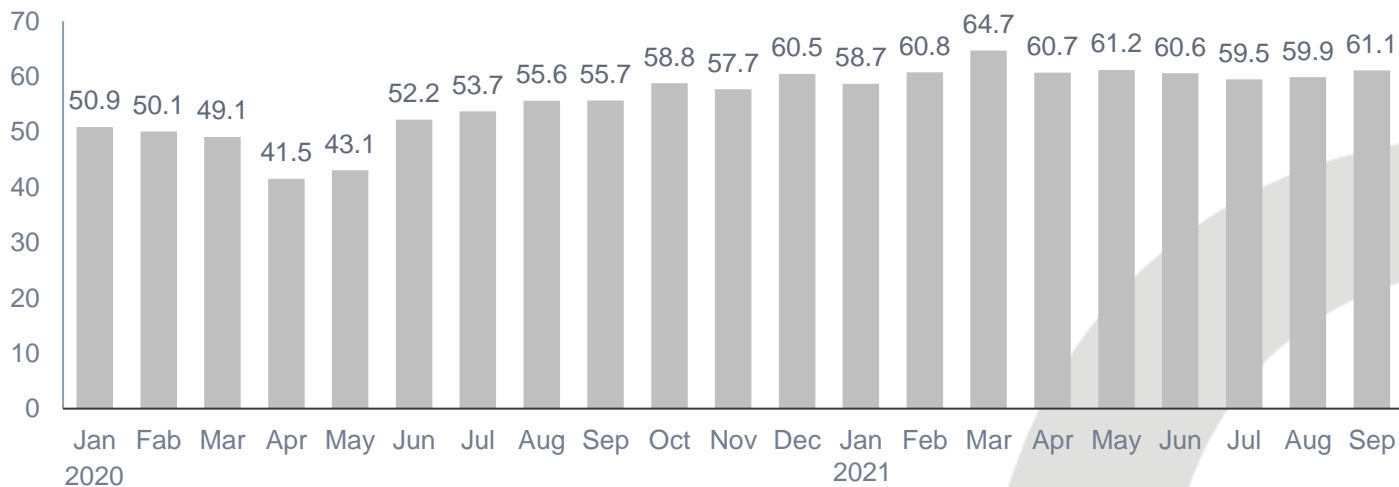


INDUSTRY OVERVIEW

The hydraulic cylinder industry ramped up this year amid a reopening and resurgent economy, which boosted orders and spiked demand for industrial products that are dependent on fluid power. According to the Institute for Supply Chain Management (ISM), the Purchasing Managers Index (PMI) has indicated an expansionary economic and manufacturing environment (PMI greater than 50.0) for fourteen consecutive months going back to June of 2020.

Despite—and in some cases, as a result of—this growth, the industry has experienced some shortages and rising prices of raw materials and labor, which has led to supply disruptions and slower economic growth. Although still in expansionary territory, the PMI has declined (albeit slightly) for two consecutive months, from 61.2 in May to 59.5 in July. The ISM stated that some companies are struggling to meet demand and are experiencing record lead times, shortages of basic materials, and rising prices of commodities and transportation.

U.S. MANUFACTURING PMI DATA, JAN. 2020-PRESENT



Source: S&P Capital IQ

Even with these challenges, the global hydraulic cylinder market is projected to reach \$15.8 billion by 2025, up from \$13.4 billion in 2020, fueled by rising demand in material handling, construction, and mining. Strong demand for mobile equipment is outpacing the supply of many critical hydraulic cylinder components. This is partly explained by the growth in e-commerce and related material handling requirements in warehouses and distribution centers, which has generated increased demand for mobile equipment such as telescopic handlers, forklifts and cranes that rely on high quality hydraulic systems.



The latest report published by the National Fluid Power Association shows industry shipments of hydraulic power products for May 2021 increased 32.7% when compared to May 2020 and increased 10.4% year-over-year in June 2021. Mobile hydraulic, industrial hydraulic, and pneumatic shipments all increased 20% to 35% in May 2021 when compared to May 2020, which was impacted by dropping demand due to the Covid-19 crisis. This snapback of demand has been a major factor in expanding lead times, supply shortages, and price increases, but will likely mitigate as supply and demand attain a better balance over the next twelve months.

INDUSTRY TRENDS

LABOR CONCERNS

Key participants in this labor shortage are the transportation, warehousing, and utilities sectors in which open positions are up 30% from the pandemic average. An undersupply of manufacturing labor continues to be a factor in supply shortages, as factory employment is down nearly 500,000 jobs from 2019 amid a spike in demand. According to Barron's, there were twice as many manufacturing job openings in June as there were in 2019 before the pandemic, and more American manufacturing positions are unfilled now than at any point since the 1990s. In particular, factories are struggling to find skilled workers for specialized roles such as welders and machinists. Also, labor costs are increasing as employees are changing careers at a faster pace to seek higher wages and others have been content to remain on unemployment roles, taking advantage of expanded federal benefits. According to Deloitte, as many as 2.1 million manufacturing jobs will be unfilled through 2030 and the worker shortage could hurt revenue and production, costing the U.S. economy up to \$1 trillion.

Manufacturers face heavy competition from Amazon and other e-commerce businesses for entry-level talent. In addition, e-commerce impacts the demand for hydraulic cylinders, as the sector is dependent on vehicles, heavy machinery, and lifts that require hydraulic systems. Though the manufacturing sector has been negatively affected by labor shortages, the industry has still managed to regain 63% of jobs lost in the pandemic, outpacing the majority of other hard-hit industries in the U.S. With real wage growth, expiration of federal expanded unemployment benefits, and increasing vaccination rates, labor shortages for hydraulic cylinder manufacturers should continue to ameliorate.

INFRASTRUCTURE BILL

The current proposed infrastructure bill calls for significant investment in manufacturing incentives and targets transportation as the largest focus. The plan also targets concerns regarding the lack of skilled workers in certain industries, including the manufacturing sector, by proposing material investment in workforce development, including funding for STEM careers and trade and technical schools. With an emphasis on transportation, the bill would increase demand for a variety of fluid power and hydraulic cylinder end markets and is generally seen as a tailwind for the industry.

NEW TECHNOLOGY

Smart component technology continues to be an important topic, with numerous manufacturers working on offering intelligent capabilities for their hydraulic components. There are a broad range of uses for smart components on heavy equipment, including for cutting, digging, lifting, leveling, depth control and others. These components can involve integrated transducer sensors and heightened control capabilities. Smart components are designed to help maximize performance, energy efficiency and ease of use. Smart components tend to be costly, and sensors must be able to withstand the harsh environments typical in construction, mining and agricultural applications. While there are multiple smart cylinder technologies in the market, there appears to be no single approach that is preferred by customers, suggesting there may be room for further enhanced technology.

U.S. RESHORING/ONSHORING

Covid-19 has had a material impact on global manufacturing and imbedded supply chains, creating shortages of raw materials and critical components and generating backlogs and other challenges for fluid power and hydraulic cylinder manufacturers. Given the disruption, manufacturers in many countries, including the U.S., have begun reevaluating existing supply chains and considering onshoring certain critical manufacturing processes. Localized production can enhance just-in-time capabilities and optimize workflow to more efficiently produce products and serve customer needs. It also enables manufacturers to have more control over the quality critical components needed for hydraulic cylinder assembly.

Numerous companies have already moved operations back to the U.S. and even more are considering doing so in the near future. In June 2020, the Thomas Industrial Survey determined that 69% of businesses, up from 54% only four months earlier, are likely or extremely likely to reshore operations to bolster supply chains. Facilitating the reshoring/onshoring trend is the growing belief by manufacturers that investment in new automation and smart tools will permit production on a competitive basis against lower cost geographic locations. Localizing and modernizing reduces the risk of disruption and safeguards supply chains.



MATERIAL HANDLING GROWTH

The material handling sector has experienced robust growth through the pandemic largely due to the rise in e-commerce spending, which is up 39% year-over-year with nearly \$1 out of every \$5 spent on online orders. Material handling equipment sales are expected to grow at a CAGR of 5.4% for the next five years. E-commerce trends are influencing how companies manufacture, warehouse, and ship their products. As a result, there is an increasing focus on optimizing processes and developing automated solutions. Since fluid power, including hydraulic cylinders, is an essential component of mobile material handling equipment, sales are likely to continue to be positively impacted.

- ▶ Typical e-retailers use 3x the amount of warehouse and logistic space to generate \$1B in revenue than a traditional brick-and-mortar retailer does, driving the need for automation and space optimization.
- ▶ Modern warehousing systems are required to process increasingly complex tasks and provide reliability and flexibility for future needs.
- ▶ Tenants are demanding higher ceilings, which require more reliable and sophisticated pallet racking and lifting systems and mobile equipment.



END MARKET OUTLOOK

AEROSPACE & DEFENSE

This end market includes equipment used in landing gear, ramps, doors, flight controls, defense applications and ground service applications. For public applications, capital expenditures are expected to be moderate as demand snaps back from the Covid-19 pandemic. U.S. defense spending is expected to reach \$900 billion by 2030, representing modest growth of 2%. The newfound race to space has increased aerospace spending and valuations to all-time highs and may be a tailwind for the aerospace sector and, in turn, the hydraulic cylinder industry.

AGRICULTURE & FORESTRY

Hydraulic cylinders are components of agricultural equipment including combines, harvesters, tractors, loaders, log handlers, packers, lifts, conveyors, mulching machines and various lawn and garden equipment. Agricultural product sales tend to grow rapidly where population is growing the fastest and, in turn, will fuel hydraulic cylinder growth in these areas. The bulk of agricultural cylinder demand will come from emerging markets, but North American markets will also see slight growth in the short term as demand is snapping back from Covid-19 shutdowns.

COMPACTION

Hydraulic cylinders have applications in waste management, trash compaction vehicles and landfill compaction. Demand for compaction vehicles is cyclical and is impacted most by the strength of the economy and the size and scale of municipalities and corporations and their ability to make heavy capital expenditures. With the economy gaining strength, municipalities and corporations will be replacing older compaction vehicles with more fuel-efficient vehicles and more recycling capabilities, which is a tailwind for hydraulic cylinders in the compaction market.



CONSTRUCTION

The demand for construction equipment is heavily dependent on the economy and may benefit materially over the coming years based on the Infrastructure Bill currently being considered by Congress. The construction end market includes excavators, loaders, cement machines and drilling rigs used during the construction of infrastructure projects. The sector is a key focus of the proposed Infrastructure Bill and should bring net positive outcomes to the hydraulic cylinder industry.

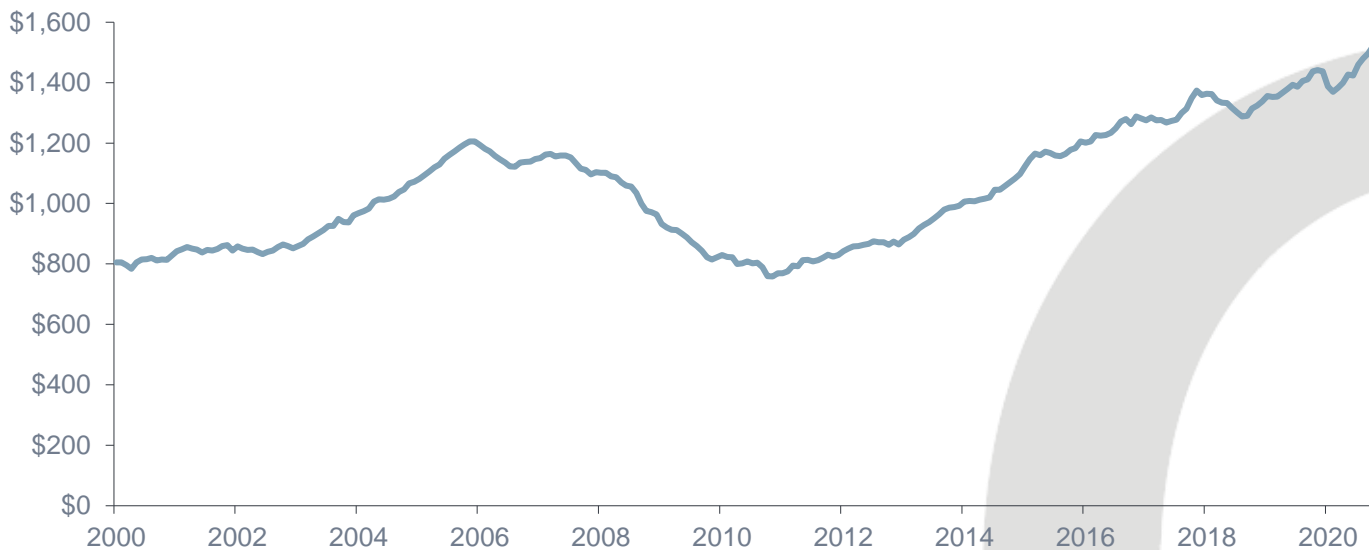
INDUSTRIAL EQUIPMENT

This segment includes hydraulic presses and machining tools used for metal forming, casting, shaping, and steering. Similar to the construction segment, this segment is sensitive to the economy and, therefore, should have a modest outlook in the short to moderate term. Fluid power products and actuators are estimated to comprise 8% of the total equipment manufacturing market, which represents the largest single subgroup. With the increase of onshoring manufacturing and a possible Infrastructure Bill in the short term, this market segment should grow in line with the economy.

MATERIAL HANDLING

This is the highest growing end market for hydraulic cylinders. The market is dependent on equipment such as cranes, forklifts, telehandlers and conveyors. U.S. monthly warehouse construction continues to hit all-time highs fueling the need for material handling equipment. Pundits factor the pandemic as a major catalyst in permanently shifting consumer behavior towards online sales. The focus on automation and optimization of warehousing, logistics and e-commerce in general is a major driver for this industry and, in turn, for hydraulic cylinders.

U.S. MONTHLY TOTAL WAREHOUSE CONSTRUCTION PUT-IN-PLACE



Note: Data is seasonally adjusted

Source: S&P Capital IQ

MINING

Equipment sales globally have declined due to falling commodity demand and prices, but electric vehicles have sharply increased the need for rare earth minerals required for lithium-ion batteries. In March 2020, the Department of Energy announced a \$30 million initiative that will fund research and development designed to secure a U.S. domestic supply of rare earth material and other important minerals used in batteries, such as cobalt and lithium. China is currently responsible for 80% of rare earth mining, but the U.S. is attempting to become a meaningful participant.

OIL & GAS

Hydraulic cylinder components near oil wellheads are used to raise and lower drills, service platforms, storage trucks and rigs. Capex has been falling in this subsector since 2014, concurrent to the public shift in reducing fossil fuel use and converting to renewable energy. The Covid-19 pandemic also fueled a temporary retreat from traditional fossil fuel use due to limited travel across the world. There has been growing travel demand and thus higher oil prices in 2021, but in the intermediate and long term, oil and gas are not expected to be large drivers of growth for the hydraulic cylinder industry.



M&A TRANSACTIONS

SELECT FLUID POWER M&A TRANSACTIONS

Acquirers of fluid power and hydraulic cylinder component manufacturers in the past 24 months have included both private equity firms and strategic corporate buyers.

DATE	ACQUIRER	TARGET	TARGET DESCRIPTION
Aug-21	Danfoss A/S	Eaton Corporation plc (Hydraulics)	Provides pumps, motors, and hydraulic power units; valves, cylinders, and electronic controls; hoses, fittings, and assemblies.
May-21	Callista Private Equity GmbH	Rohrwerk Maxhutte GmbH	Manufactures steel tubes, hydraulic cylinder tubes, power take off shafts and tubes for applications ranging from engineering to mining.
May-21	Endless LLP	JOST Limited	Manufactures lifting frames and towing products, Edbro telescoping cylinder technology products and hydraulic kit solutions.
Apr-21	Brake Supply Company, Inc	Assets of Perfection Hydraulics Inc.	OEM and aftermarket manufacturer and remanufacturer of hydraulic pumps, cylinders and other components.
Feb-21	Purvis Industries Ltd.	Hydragear LLC	Remanufacturer of all hydraulic system components.
May-20	Vydraulics Group	Doedijns Group International B.V.	Designs and manufactures hydraulic and pneumatic solutions for oil and gas, construction, drilling, production, and industrial markets.
Feb-20	Madison Industries US Holdings Co	Holmatro N.V.	Provides high-pressure hydraulic lifting, bending, pulling, and cutting equipment, hydraulic systems, cylinders, and control winches.
Sep-19	DexKo Global Inc.	Safim SPA	Manufactures hydraulic and electrohydraulic valves and cylinders and other parts for agricultural, highway, trailers, and lifting assets.
Sep-19	EBSCO Capital LLC	Bailey International	Manufactures mobile hydraulic products.
Sep-19	Hydraulik Nord GmbH	Andreas Lup. Hydrotech. GmbH	Designs and manufactures hydraulic lifting devices, control and regulating devices, valves, pumps, and hydraulic clamping cylinders.
Jul-19	Vydraulics Group	IHC Vremac Cylinders B.V.	Designs and manufactures hydraulic cylinders for civil, offshore, and renewable energy markets
Feb-19	Diplomatic MS S.p.A.	Hydreco Hydraulics Ltd	Manufactures mobile hydraulics including telescopic cylinders, winches, and cast-iron gear pumps for industrial applications
Dec-18	SBP Holding LP	Dakota Fluid Power, Inc. (SBP Holding LP)	Manufactures fluid power solutions including valve kits, cylinders, hoses, hydraulic oil coolers, and mobile hydraulic power units

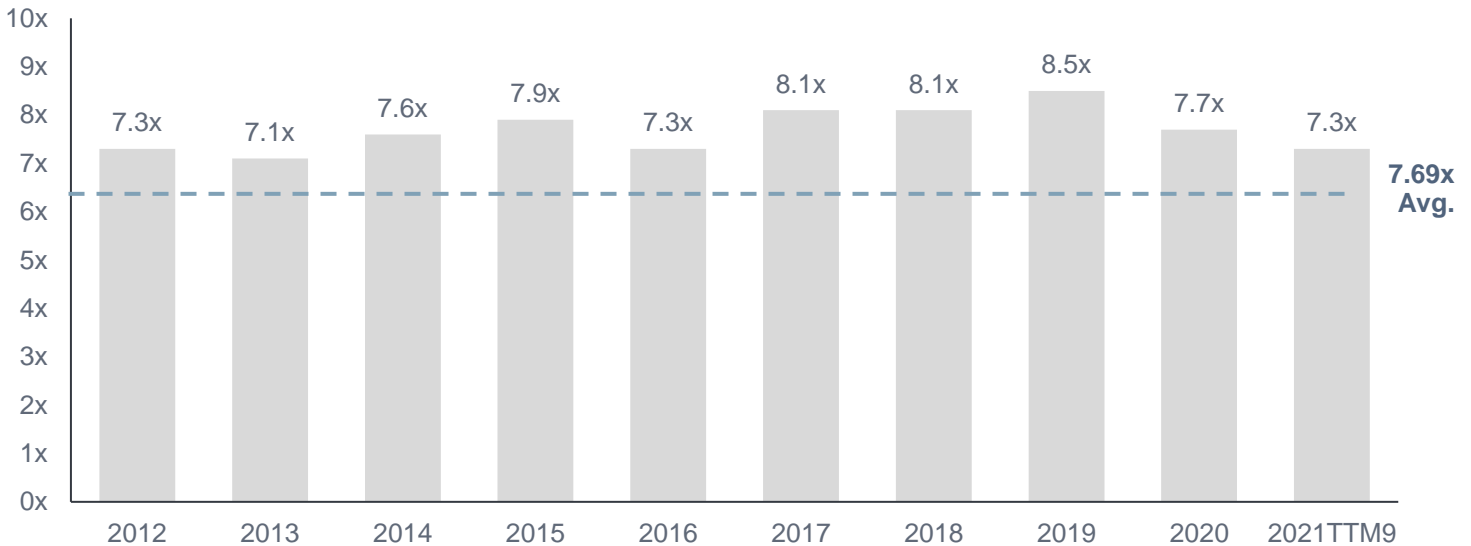
Source: S&P Capital IQ

M&A TRANSACTIONS *(continued)*

TRANSACTION MULTIPLES

While the below chart exhibits a fairly steady level of transaction multiples, the range has been as wide as 1.4x. Applied to even a modest EBITDA total, the impact of timing on total enterprise value is meaningful. While TEV/EBITDA dipped materially in 2020, we believe that it reflects a reduced appetite among buyers as COVID-19 took a toll on the economy.

MIDDLE MARKET INDUSTRIAL TEV/EBITDA MULTIPLES



Source: S&P Capital IQ

Our view is that fluid power component manufacturers pursuing a transaction in the near term should anticipate TEV/EBITDA transaction multiples in line with recent averages. Firms with supply chain efficiencies, strong design/engineering capabilities, sustainable growth, and technology advantages could expect to exceed averages.

PUBLIC COMPANY DATA

IMPLICIT VALUATION MULTIPLES

Few pure play hydraulic cylinder companies trade in the public markets. There are, however, many industrial companies that have meaningful fluid power and hydraulic cylinder component manufacturing operations.

These representative companies have experienced strong appreciation during the current economic expansion since June 2020. Most of this appreciation occurred during the summer of 2020 when the median multiple of total enterprise value (TEV) to EBITDA for these companies increased from 10.0x to 12.9x, an increase of 28.7% in only three months. Since that time, the median TEV/EBITDA multiple has remained relatively consistent and is currently at 12.5x.

SELECT PUBLICLY-TRADED COMPANIES WITH FLUID POWER/HYDRAULIC CYLINDER COMPONENT OPERATIONS

(\$ in millions)

Company Name	Headquarters	Revenue	EBITDA Margin	TEV/EBITDA Multiple as of:			
				10/27/21	10/27/20	6/1/20	3/1/20
Bucher Industries	Switzerland	\$ 3,236	12%	12.0x	12.2x	8.0x	8.0x
DY Power	South Korea	338	15%	2.5x	3.5x	2.9x	2.6x
Enerpac Tool Group	United States	529	15%	15.5x	26.2x	20.4x	15.5x
Howa Machinery	Japan	173	6%	7.0x	9.8x	6.9x	4.6x
Hyundai Heavy Industries	South Korea	19,101	6%	13.6x	28.4x	21.0x	10.5x
Interpump Group	Italy	1,702	24%	19.7x	13.7x	11.0x	10.3x
Leggett & Platt	United States	4,810	15%	11.0x	13.1x	9.3x	10.4x
Nabtesco	Japan	2,600	13%	10.1x	11.9x	10.0x	9.1x
Parker-Hannifin	United States	14,348	21%	14.9x	13.6x	12.5x	12.9x
Standex International	United States	656	17%	12.5x	9.3x	7.6x	8.6x
TPC Mechatronics	South Korea	76	4%	20.7x	19.7x	26.9x	31.0x
Mean		\$ 4,325	14%	12.7x	14.7x	12.4x	11.2x
Median		1,702	15%	12.5x	13.1x	10.0x	10.3x

Source: S&P Capital IQ as of October 27th, 2021

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INDUSTRIAL SECTOR INVESTMENT BANK

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Mergers & Acquisitions Advisory

Private Capital Sourcing (Debt and Equity)

Financial Advisory

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HYDRAULIC CYLINDER EXPERTISE

Origin has extensive experience advising companies involved in the production of diverse hydraulic components and systems.

Moreover, with more than 100 engagements in the metals processing and manufacturing arena, we have significant familiarity with virtually all forming and processing capabilities, including among others: casting, CNC machining, cutting, coating, extruding, fabrication, forging, hydroforming, impregnating, milling, non-destructive testing, tube fabrication, stamping, and welding.

- ▶ Founded in 2011
- ▶ Professionals in Chicago, Atlanta, Denver, Toronto and Montreal
- ▶ Strong focus on middle market manufacturing and industrial service transactions
- ▶ Deep experience in metals fabrication
- ▶ Active coverage of industrial sub-sectors through proprietary public company indices
- ▶ Comprehensive global reach through the Terra Alliance

GLOBAL REACH

Origin is a member of the Terra Corporate Finance Alliance, a leading international network of investment banks with coverage of more than 45 countries and operations in North America, South America, Europe, the Middle East, Africa and Asia. Through this network, Origin has a platform for offering enhanced identification of, and access to, potential transaction parties around the globe.



TERRA ALLIANCE BY THE NUMBERS

15

Member Firms

45+

Countries Covered

500+

Transactions in the
Past 5 Years

\$48B

Transaction Value in
the Past 5 Years



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To learn more about Origin Advisors' investment banking services or to obtain additional insight into specific industry verticals, please visit our website or contact one of our specialists below.



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SOURCES UTILIZED IN THE PREPARATION OF THIS REPORT

Barrons

Deloitte Industry Update

Institute for Supply Management (ISM)

National Fluid Power Association

Reuters

S&P CapitalIQ

Thomas Industrial Survey

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