

# ASCO – Fluid Automation

**ASCO, an Emerson company, offers comprehensive solutions of fluid automation products for a broad range of process and manufacturing industry applications. The company's global scale increases speed to market, its deep expertise across applications transforms ideas into measurable outcomes, and its people create solutions that maximize efficiencies and optimize customer applications. ASCO's fluid control and pneumatic product lines include a full range of solenoid valves, angle body piston valves, valve manifolds, cylinders, filters, regulators, lubricators and a complete range of accessories.**

**By Marty Mincevich, ASCO**

In 2016, ASCO Numatics unified its global business under the ASCO brand, recognizing the company's capabilities to deliver the industry's widest range of fluid automation solutions with unmatched speed, reliability, and performance.

"As we looked into the future of manufacturing and processing, we saw a convergence of fluid control and fluid power applications that would require comprehensive suites of products that create higher-value solutions for customers," said Robert W. Kemple, Jr., executive vice president, sales and marketing – Americas, ASCO. "We have the innovative technology, cross-application expertise, and global scale that can help customers maximize efficiencies, optimize applications, and transform their ideas into measurable outcomes."

Adopting ASCO as the company's global brand acknowledged the company's ability to create fluid automation solutions that addressed the industry's broadest spectrum of market and application needs and fulfill them anywhere in the world.

ASCO's new fluid automation solutions are driving higher productivity and value in life sciences, medical devices, power generation, biofuels, food and beverage, oil and gas, chemicals, water and wastewater, pulp and paper, packaging, commercial appliances, HVAC, and more.

Over the last 18 months, ASCO has devoted its competitive advantages of speed,

innovation, and application expertise to introducing important fluid automation solutions.

### **Engineered Solutions Cut Lead Times by 50%**

Research indicated that most original equipment manufacturer (OEM) engineers at life science instrument companies were dissatisfied with the lengthy lead times for customized valves and manifold assemblies. To meet this pressing need, ASCO introduced its Engineered Solutions Program, which cuts product development and lead times for customized miniature valve and manifold assemblies by up to 50% for the analytical and medical instrument markets. The program leverages the deep expertise, prototype labs, and resources of ASCO's Analytical and Medical Technology groups in the Americas, Europe, and Asia.

These ASCO valves and assemblies are designed for quick and efficient manufacturing, and are backed by local technical support provided by product specialists trained in analytical and medical applications.

ASCO's Engineered Solutions capabilities include:

- Turnkey solutions for value-added miniature valve assemblies and modules
- Technical expertise for co-developing solutions with OEMs

- Rapid turnaround times from design to 3D modeling and prototyping
- Global manufacturing, sales, and technical support
- Class 8 clean room manufacturing to minimize contamination
- Long lifecycle products tested to over 100 million cycles
- Very low internal valve volumes to minimize cross-contamination and improve flushability
- Optional power saving functions for improved energy efficiency

The Engineered Solutions Program is ideal for OEMs designing clinical diagnostic, bio-instrumentation, chromatography, hospital and dental equipment, industrial analyzers, patient monitoring, and surgical and oxygen therapy applications.

### **Zoned Safety Solutions Reduce Cost and Complexity**

Designing and applying discrete safety circuits for production machinery can be a time-consuming and expensive proposition. ASCO has developed the capability to integrate multiple safety zones within a single Numatics 503 Series valve manifold. This new zoned safety approach helps the design engineer satisfy the Machinery Directive 2006/42/EC and comply with ISO 13849-1 while eliminating the components and complexity found in discrete safety circuits.

The zoned safety concept is an integrated approach to machine safety and control that greatly simplifies the design of a redundant pneumatic safety circuit with a manifold system. OEMs and end users can easily and cost-effectively configure up to three safety circuits in a production machine using a single Numatics 503 Series valve manifold with G3 fieldbus electronics. This simple, user-friendly safety approach reduces components, saves space and cost, plus improves design flexibility.

With zoned safety, the operator does not

have to shut down the entire machine by releasing compressed air with a redundant safety/control dump valve. Instead, the Numatics 503 Series valve manifold can be configured to shut down air and power only to the group of valves that controls the machine's motion in the operator's vicinity.

### **Compact ASCO 651 Series FRLs Feature Highest Flow Rates**

Design engineers searching for compact pneumatic air preparation products will be delighted with the new ASCO Numatics 651 Series filter, regulator, and lubricator (FRL) line. The 651 Series requires less space and was specifically designed to fit in compact applications and in machines that require less air consumption. With the highest flow rates for their sizes, the highly reliable air preparation products are ideal for packaging and other applications that require space-saving designs.

The 651 Series extends the company's high flow-rate 650 Series family to include products with 1/8-inch and 1/4-inch port sizes. The FRL line's high- and low-temperature capabilities (-40° C to 80° C) permit its application across a broad range of operating conditions, including those with harsh environments. The modular FRL products feature robust construction and are easy to assemble, mount, and position. New manifold endplate flanges allow a maintenance technician to pull the manifold assembly out of service without disconnecting the piping. The 651 Series is the only product of its type that comes with gauges on its shut-off isolation valves and slow-start/quick exhaust valves. Optional integral pressure range indicators added to the low-profile gauges allow users to easily set the red/green color indicators to the desired pressure range.

### **ASCO 362/562 Spool Valves Enhance Control Valve Automation**

With the introduction of its 362 and 562 Series spool valves, ASCO has become a comprehensive fluid automation supplier for upstream oil and gas automation. The ASCO spool valves feature the industry's highest flow rates and are available in 1/4-inch, 3/8-inch, 1/2-inch, 3/4-inch, and



The 580 CHARM node permits full integration of Numatics' 500 Series pneumatic valves and manifolds into the DeltaV DCS network.



Lead-free brass constructions are available on ASCO's most popular lines of general service solenoid valves.

## n Solutions. Right. Now.

1-inch pipe sizes. ASCO is the industry's only provider that offers a 3/4-inch size in stainless steel 3-way and 4-way models and a 1-inch size in a stainless steel 4-way model.

The 362 and 562 Series spool valves offer design engineers attractive new solutions for control valve automation in the upstream, midstream, and downstream oil and gas markets. The valves' exceptionally high flow rates will enable OEMs to use smaller piping and purchase lower-cost valves while achieving the same flow specifications.

The 362 and 562 Series valves are available in brass and 316L stainless steel constructions for corrosion resistance in harsh environments. The series includes both pneumatic and solenoid models. Optional features include:

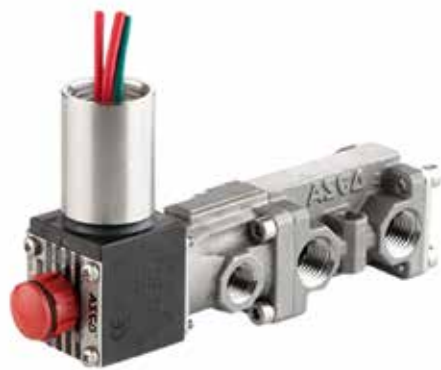
- New dual approved solenoid option with ATEX and UL hazardous location approvals
- Low-temperature models rated at -40° C
- Momentary manual override

The ASCO 362 Series is a three-way valve made for single-acting process valve applications. The ASCO 562 Series is a four-way spool valve designed for double-acting process valves.

### Lead-Free Brass Valves Fulfill Safe Drinking Water Regulations

In the U.S., safety regulations governing the lead content of potable water system components have tightened considerably. The Federal Safe Drinking Water Act (SDWA) dictates much lower lead content requirements for potable water equipment and systems – including drinking water fountains, reverse osmosis systems, coffee machines, and commercial kitchen equipment – as well as equipment maintenance contractors.

ASCO has introduced brass valves that comply with SDWA requirements for lead-free components. These valves facilitate equipment design by eliminating the need



### ASCO 362/562 Spool Valves

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to perform the wetted surface area lead content calculation specified by the SDWA.

The lead-free brass constructions are available on the company's most popular lines of general service solenoid valves. With the broadest range of lead-free brass valves in the industry, ASCO makes product development simpler and less complex for engineers designing equipment for potable water applications. Customers also will benefit from ASCO's proven performance, exceptional reliability, and quick availability.

ASCO is the only company offering lead-free brass valves with a zero psi minimum pressure differential option. Five psi minimum pressure differential models also are available.

### 580 CHARM Node Permits Easy DeltaV – Valve Manifold Integration

Traditionally, the chores of I/O mapping and configuring bus networks to valve manifolds in a distributed control system (DCS) have made commissioning time-consuming, expensive, and confusing. ASCO has solved that issue with the 580 CHARacterization Module (CHARM) node. The 580 CHARM node enables easy solenoid valve integration into Emerson's DeltaV™ S-series distributed control system (DCS) with Electronic Marshalling technology.



### Zoned Safety Solutions

Three safety circuits can be easily configured in a single Numatics 503 Series valve manifold.

The 580 CHARM node provides a complete Emerson solution for I/O and pneumatic manifolds in process plants that use DCS for continuous or batch manufacturing. By directly linking the 580 CHARMs node to the DeltaV system via the CHARM baseplate, pilot valve manifold commissioning is now greatly simplified and the number of network interfaces, network gateways, wiring, and junction boxes are dramatically reduced.

The 580 CHARM node permits full integration of Numatics' 500 Series pneumatic valves and manifolds into the DeltaV DCS network, and provides the following benefits:

- Uses native capability of DeltaV for diagnostics of pneumatic valves
- Brings the CHARM redundant communications and power connections to pneumatic valve manifolds
- Eliminates the need for additional dedicated networks such as Profibus-DP for pilot valves, and simplifies system I/O mapping
- Utilizes a single network connection from the DeltaV DCS through the CHARM baseplate and connecting to the 580 CHARMs node and manifold, eliminating the need to use individual DO CHARMs to drive each valve coil on the pilot manifold
- Achieves up to 15% savings on wiring and components

The 580 CHARM node provides cost-savings and additional functionality for industries such as life science, pharmaceutical, and biotechnology that use electronic marshalling technology.

### ASCO Express Quick Ships Industry's Broadest Range of Fluid Automation Solutions

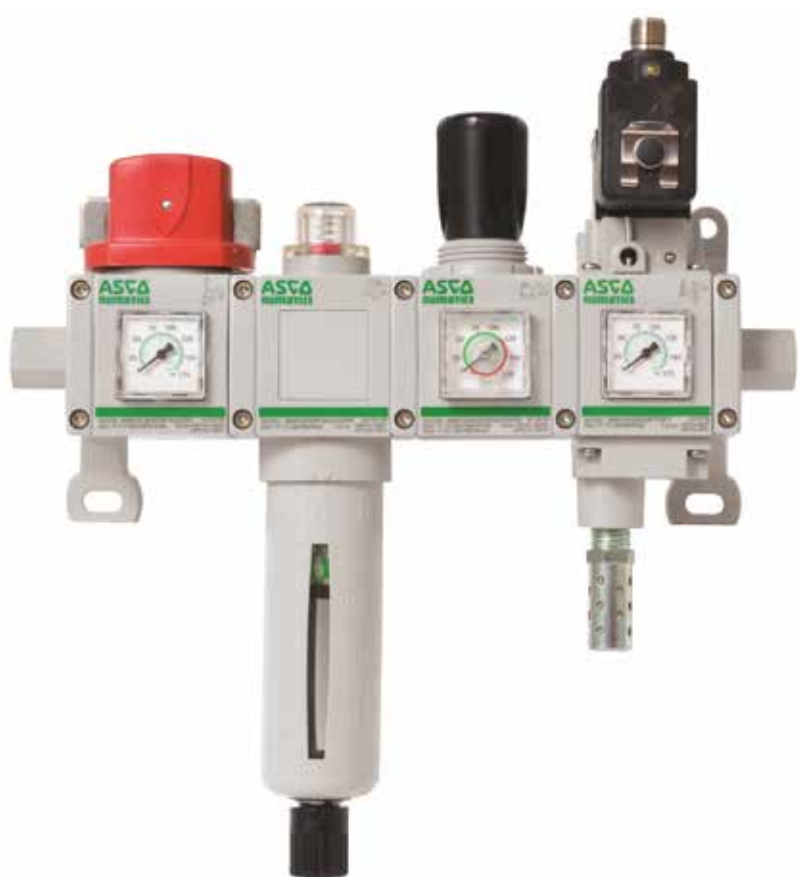
When it comes to getting needed fluid automation parts shipped to your operation, speed is often more than nice. It's necessary. For OEMs, flow control and pneumatic components are frequently the last pieces added to a new equipment design. Their availability can become critical gating factors in timely delivery to customers. For end users, such availability may be equally vital: being forced to wait for one of these components can bring an entire process – or plant – to a standstill.

ASCO Express meets these needs by uniting the world's most popular fluid control and pneumatic offerings under one global rapid shipment brand to provide a comprehensive suite of fluid automation solutions. More than 50,000 solenoid valves, pneumatic valves, cylinders and actuators, air preparation products, and accessories are available for shipment in 5 days or less.

With ASCO Express, customers can reduce the cycle times required to build and develop their products or make last-minute engineering changes without disrupting production schedules. Maintenance managers benefit from fast parts replacement, reduced MRO inventory, and greater asset availability.

### About Emerson

Emerson, based in St. Louis, Missouri (USA), is a global leader in bringing technology and engineering together to provide innovative solutions for customers in industrial, commercial, and consumer markets around the world. Sales in fiscal 2015 were \$22.3 billion.



The compact Numatics 651 Series FRLs feature robust construction and are easy to assemble, mount, and position.



### Engineered Solutions

ASCO Engineered Solutions consist of turnkey, value-added miniature valve assemblies and modules.

The views and opinions expressed in this article are those of the profiled company and do not reflect the position of Valve World Americas.