



## Valve Manifold Solutions | for Fieldbus Applications



Fluid Automation. Right. Now.™

# Dependable control solutions for each and every project

Whether you're looking to automate a simple machine or a complex plant area, you need components that are easy to integrate into existing systems and that are easy to install and commission.

## Fluid Automation. Right. Now.

ASCO, the leader in fluid automation, has vast experience with an extensive range of products suitable for a wide variety of industries and applications. Our valve manifolds come with practical, technically advanced features such as integrated digital displays to make commissioning and fault diagnosis easier. Our compact, modular valves offer the highest flow rate for their size, helping you to reduce machine footprint and lower costs.

Machine safety compliant and suitable for high or low demand applications, our products are tested and proven over millions of cycles. So you can install them with confidence and trust them to perform time after time. If you're short on time or resources, we can even offer pre-assembled, cabinet mounted solutions to make your job easier and make sure you hit your delivery deadlines. And with global customer support teams, there is always a specialist on hand to help with any questions that you may have.

Our products are used in a wide variety of industries, including:

### Process Industry

- Food and Beverage
- Pharmaceutical
- Biotechnology

### Discrete Automation

- Packaging machinery
- Automotive manufacturing
- General automation
- Industrial robots





ASCO valve manifolds are offered with the industry's widest variety of fieldbus protocols for hazardous and non-hazardous areas.

For full information on the ATEX certification of our products, visit [www.asco.com](http://www.asco.com)

# Electronics Platforms

## G3



The G3 Series product line is a completely modular and scalable system that uses an innovative clip design, allowing easy module removal and replacement without dismantling the whole manifold.

It has a unique graphic display that supports plain-language messaging of diagnostic information at both the I/O module and communication node level. The integrated display helps to provide clear feedback when commissioning network communication module, allowing you to speed up the commissioning process and shorten your critical path. Plus, faults are easier to diagnose, meaning you can get up and running again much quicker.

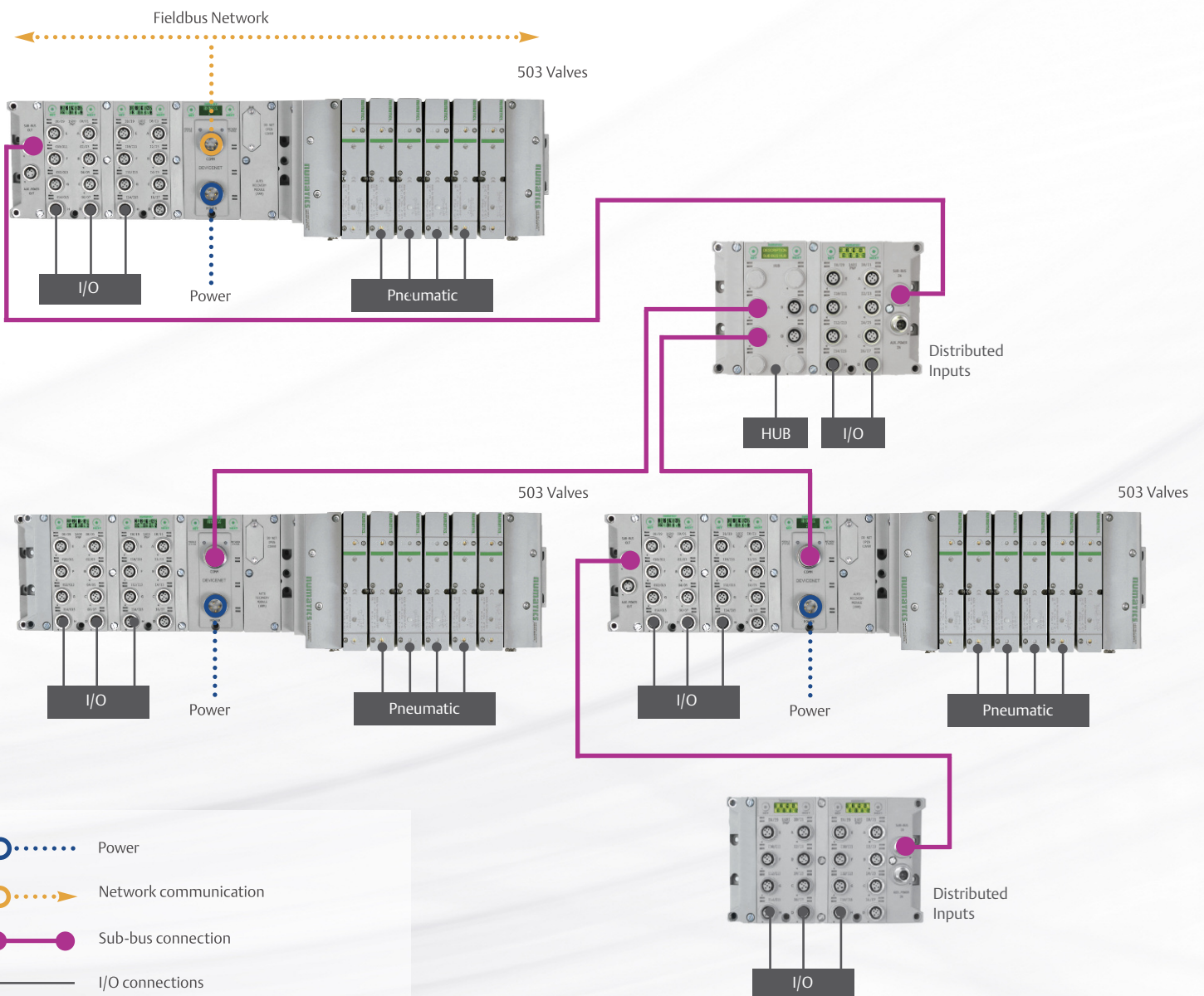


- Offers a high-speed, distributed solution allowing star, linear and ring topology, reducing the length of cable runs and pneumatic connections required
  - Reduces costs and improves performance.
- Provides a wide range of I/O capabilities, including analog, digital, RTD (for temperature measurement), and high current.
  - This simplifies purchasing and engineering by covering all options with a single device family.
- Integrated web server for ethernet based protocols.
  - Standard web browser commissioning and diagnostics including error log file
  - No special commissioning dongles or software
  - Simple intuitive browser based GUI

The G3 platforms offers a wide variety of industrial network communication protocols including:



## G3 distributed Solution



# Electronics Platforms

## 580

The 580 series fieldbus electronics platform offers a more compact, economical communication interface for applications that do not require the full capabilities and I/O of the G3 platform. With the same graphic display, it is similarly easy to configure and commission. Its more compact size makes it ideal in situations where space is limited.

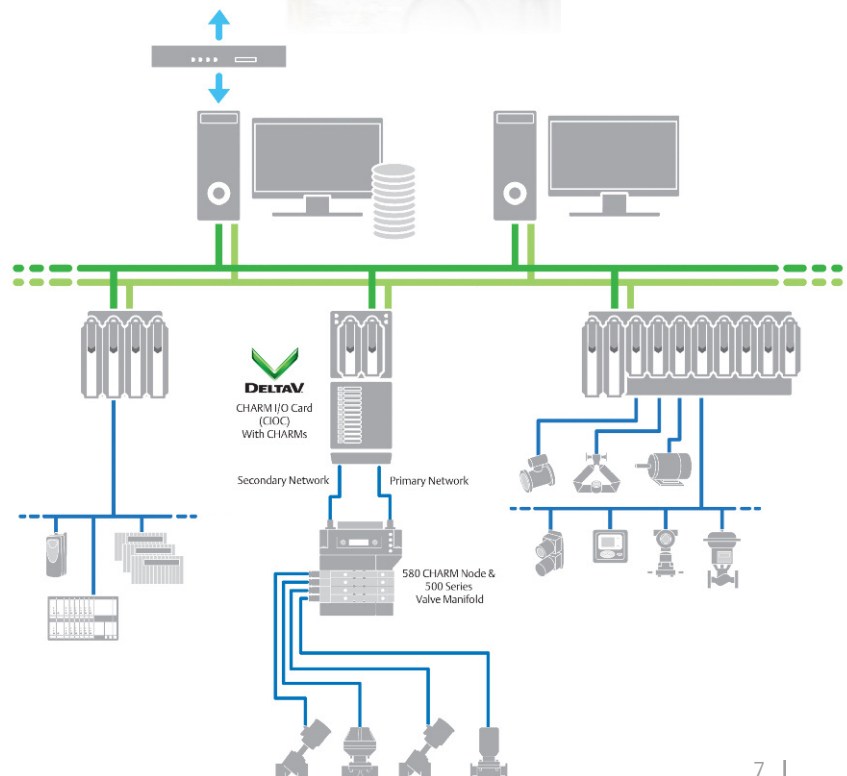
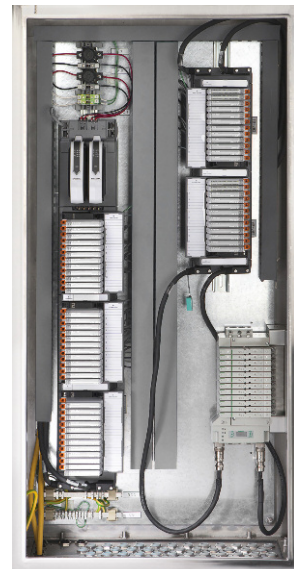
- One 580 series fieldbus electronics node can be used to control a manifold containing up to 32 valves.
- The power connector enables you to isolate all the valve outputs while leaving communications active for when using with E-stop or safety circuits.
  - Simplifies commissioning
- The clear integrated graphic display enables the network address and other parameters to be easily set and viewed.
  - Plain language messaging shows shorts, open loads, low & missing power and allows users to enable self-test mode
- The 580 series is offered with the industry's widest variety of fieldbus protocols.



# 580 for Emerson DeltaV™ integration

The new ASCO Numatics 580 CHARM node provides a simpler, more cost effective solution for connecting pneumatic valve manifolds to the Emerson DeltaV Distributed Control System (DCS) with Electronic Marshalling.

- Single connection from the field to the DeltaV™ DCS
  - Eliminates the need for an additional network such as Profibus-DP to connect pneumatic pilot valve manifolds to the DeltaV DCS
  - Provides cost savings by reducing wiring, components, labor and software programming
- Easy configuration and diagnostics in DeltaV DCS
  - All configuration work is done in the same, easy-to-use, task-based engineering environment that the DeltaV DCS users are already familiar with
  - Uses native capability of the DeltaV DCS for diagnostics of pneumatic pilot valves
- The ASCO Numatics 580 CHARM node brings CIOC (CHARM I/O Card) redundant communication and power connections to pneumatic pilot valve manifolds via existing CHARM baseplate
  - Only Emerson/ASCO can offer this capability on a single network
- Provides a complete Emerson system solution
  - A single connection to the DeltaV system with Electronic Marshalling means a tightly integrated solution for CHARM I/O and pneumatic pilot valve manifolds where there is no need for additional configuration tools, additional network familiarity and maintenance



# Valves

ASCO Numatics valves offer the highest flow capability for their product size. Using these more compact valves helps you to reduce the total footprint of your system, lowering costs in the process.

We offer a breadth of product options and can even provide optimised DIN rail in-cabinet installation, helping you ensure your project finishes on time and on budget.

## Rubber Packed Spool

- Maximizes flow rate and minimizes air consumption
- Ideal for piloting, testing equipment, and whenever inert gases are being used as media

## Spool and Sleeve

- No metal to metal contact— no wear
- Mechanical detent prevents unintended shutting of valve due to vibration and or shock loads
- Ideal for applications such as sorting, packaging lines, high-speed conveying and paint lines



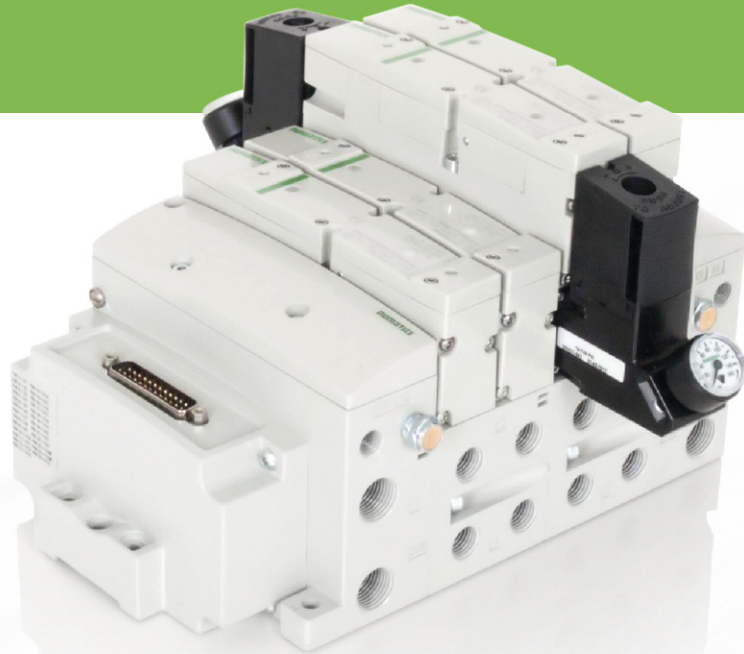
Series	501	503	2035
Threaded Connection	M7	NPTF or G1/4	NPTF G3/8 or G1/2
Push to connect fittings	1/4"   4mm, 6mm	1/4", 3/8"   8mm, 10mm	-
Width	11mm	26mm	41mm
Flow (l/min) ANR   Cv	450   0.4	1400   1.4	3820   3.9
Pneumatic function	5/2 - single or double solenoid 5/3 - W1*, W2*, W3*, 2 x 3/2 NC - NC, 2 x 3/2 NO - NO		5/2 - single or double solenoid, 5/3 - W1*, W3*
Technology	Rubber packed	Spool and sleeve or rubber packed	Spool and sleeve
Temperature	14°F to 122°F (-10°C to 50°C)		

\* W1: 5/3 closed center position  
 W2: 5/3 center open to pressure  
 W3: 5/3 center open to exhaust  
 NO: Normally open  
 NC: Normally closed



The modularity of our valve manifolds provide a high number of configurations, and our sandwich component offering is the broadest in the industry, providing:

- Pressure regulators
- Pressure shut off
- Exhaust flow control
- 24V DC and air pilot zoning for machine safety integration



## Sandwich components



Pressure regulator used to regulate the pressure to an individual valve. Also available as a double regulator to individually regulate the two outlet pressure of working ports.



Shut off block used to isolate the pressure to a single valve. This enables removal and maintenance of a single valve without shutting off pressure supply to the whole manifold.



Sandwich pressure blocks allows a separate pressure supply to be provided to an individual valve or section of the manifold, independent of the main manifold supply.



Sandwich exhaust blocks enable the exhaust from individual valves to be piped away independently of the manifold's common exhaust.



Speed control blocks allow adjustment of the outlet flow of a single valve to alter the speed of operation of any device that is connected to working ports of valve station.

# Solutions

## Save time and money with ASCO outsourced solutions

For customers who may be tight on time or short on resources, we offer fully pre-assembled, ready to install systems, specifically built and certified to your specification. These customized packages can maximize convenience, save costs, and provide superior performance.

## Space Saving and Simplified

With simplified designs that can reduce the overall footprint, installation and connection on site is a quick and easy process, while certification is simplified as cabinets can be pre-certified ready for use.

## Economic

The reduction in assembly costs, together with R&D, design and procurement, can translate into savings of up to 30%, not to mention the time and cost savings this means during installation.

## High Quality



One of the main requirements for a pre-assembled solution, particularly in a cabinet, comes from the need for robust and long lasting quality in aggressive or damp environments. Our integrated enclosure solutions ensure corrosion and damage

resistant installations. The stainless steel design can withstand regular exposure to aggressive cleaning fluids in wash-down areas, which is ideal where hygiene is paramount.

## The Complete Solution

From conception to installation, ASCO provides your complete valve manifold solution. With a team of experienced design engineers developing new products using engineering software tools to create three-dimensional models from P&ID drawings, we can deliver made-to-order solutions for your application - lowering the risk of design changes during production. Furthermore, by providing testing, assembly, delivery and installation, our solutions offer numerous opportunities for integration and savings.





# Product Configurator and CAD Library

ASCO has an extensive library of downloadable CAD drawings to help make design and specification easier for you. Our Valve manifold configurator application provides 2D and 3D CAD models in 85 industry standard file formats. Unique logical menus simplify product and option selection. The resulting CAD files and part number information are designed to meet every aspect of your design requirements in a single file.

The valve manifold configurator tool is intuitive and steps you through the process of selecting and designing a valve manifold that meets the needs of your application. Selections include the desired fieldbus protocol, whether the valve is DIN rail mounted and the number of I/O modules.

For each I/O modules you are able to select the type of I/O required. Typical selections would be Input or output, digital or analog, RTD input etc. You can also choose the number of I/O required for each module.

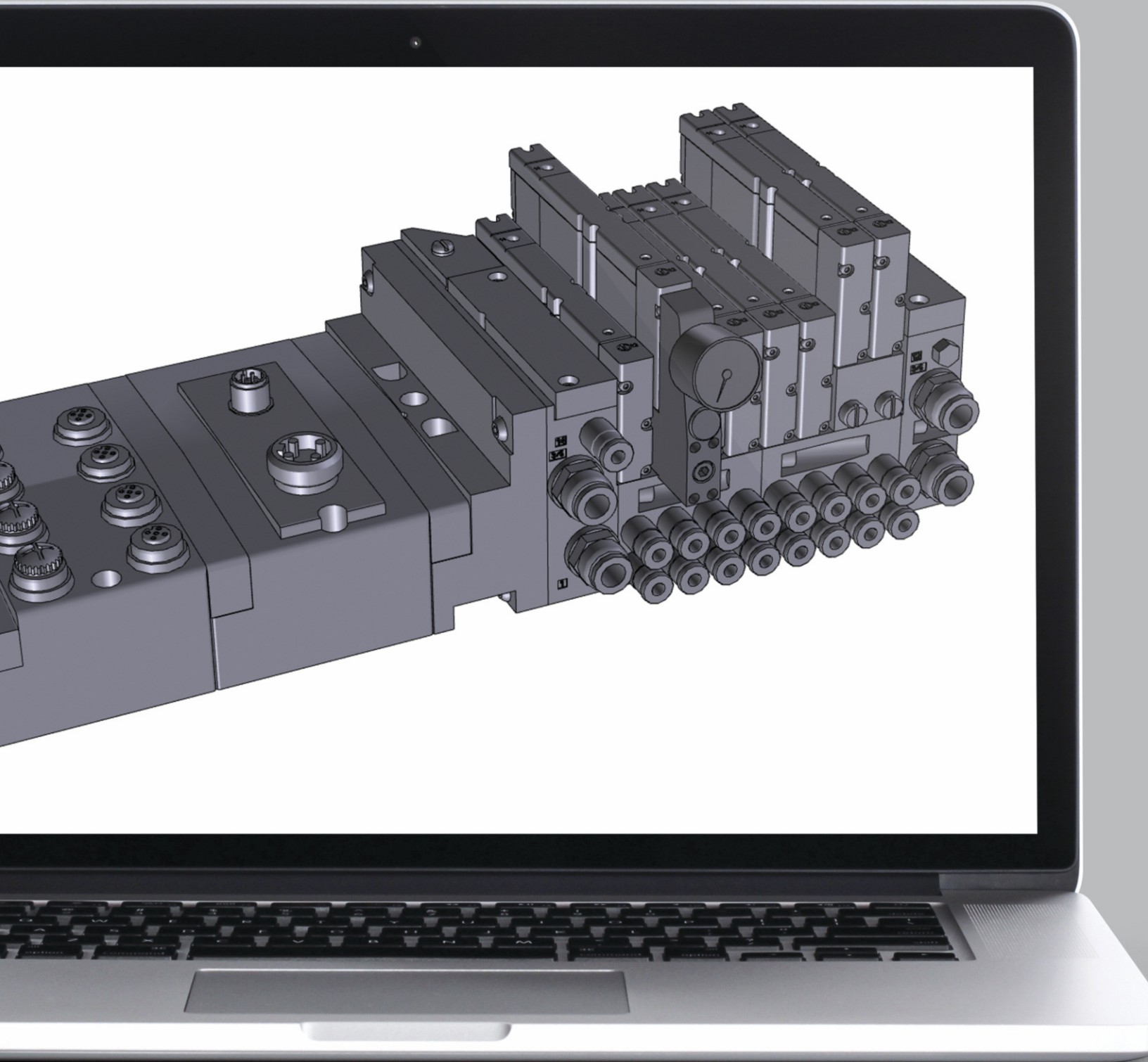
When selecting valves you are able to choose the type of valve you require, the function and any options that you may need.

The configurator tool is ideal for designers who want to be sure that the ASCO Numatics valve islands will fit into their machines and also for engineers looking to configure and select a valve manifold for a particular project on their plant.

Visit [asco.com/PneumaticConfigurators](http://asco.com/PneumaticConfigurators)



Example screenshot of 501 Series.



# Why ASCO

## Fluid Automation. Right. Now.

Wherever manufacturing or processing occurs, ASCO fluid automation solutions maximize efficiencies, and enable customers to optimize their applications. We help our customers create a unique competitive advantage by supplying the world's most reliable flow control and pneumatic products and solutions — then delivering and servicing them with the greatest speed and responsiveness.

Our global scale increases speed to market. Our deep application expertise rapidly turns ideas into measurable outcomes. And our people create innovative solutions that set the industry standard and exceed customer expectations. At ASCO, we engineer the highly reliable products and solutions that enable customers to see the future, transform industries, and shape a more productive world.

## The relentless quest for perfection.

With more than 50,000 valves, an extensive range of air preparation equipment, and a full line of actuation products, ASCO creates comprehensive suites of flow control and pneumatic solutions we call fluid automation. ASCO, a business unit of Emerson is more than 4,000 strong and operates in 42 countries — we can use that scale to amplify the reliability, speed, and expertise that form the core of our customer promise.

ASCO is the leader in developing highly reliable engineered solutions for a broad range of markets and applications. We have a unique perspective and ability to drive the industry with new ways of thinking and innovating. We're anticipating what's next — continually identifying opportunities for customers to realize their true potential.

That means going beyond what's expected to create a more productive assembly line, a safer medical procedure, a greener environment. We apply all our knowledge to craft just the right product for the customer's specific task. The goal: to make sure every ASCO solution operates perfectly, right from the start. And then is delivered and supported on time, every time.



## About Emerson

Emerson (NYSE: EMR), headquartered in St. Louis, Missouri (USA), is a global technology and engineering company providing innovative solutions for customers in industrial, commercial, and residential markets. Our Emerson Automation Solutions business helps process, hybrid, and discrete manufacturers maximize production, protect personnel and the environment while optimizing their energy and operating costs. Our Emerson Commercial and Residential Solutions business helps ensure human comfort and health, protect food quality and safety, advance energy efficiency, and create sustainable infrastructure. For more information visit [Emerson.com](http://Emerson.com).

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