

# Pneumatic Valve Islands

Fieldbus & Multipol



**ASCO**<sup>™</sup>  
**numatics**

  
**EMERSON**<sup>™</sup>

# 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. Especially as delays in engineering can impact significantly on project start-up times.

## Consider it solved

Part of Emerson, ASCO has vast experience in fluid automation, with an extensive range of products suitable for a wide variety of industries and applications. Our valve islands come with practical, high-end features such as 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 Europe-wide customer support teams, there is always a specialist on hand to help with any queries you may have.

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

### Process Industry

- Food and Beverage
- Pharmaceutical
- Biotechnology

### Automation

- Packaging machinery
- Automotive
- General automation
- Robots



**CE** ASCO Numatics valve islands are offered with the industry's widest variety of fieldbus protocols and for hazardous and non-hazardous areas, including:



- Safe / non hazardous areas
- ATEX zone 2-22
- ATEX zone 1-21

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

# Electronics Platforms

## G3



The G3 Series product line is a completely modular 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 module and communication node level. The display helps to provide clear feedback when commissioning valves, 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.

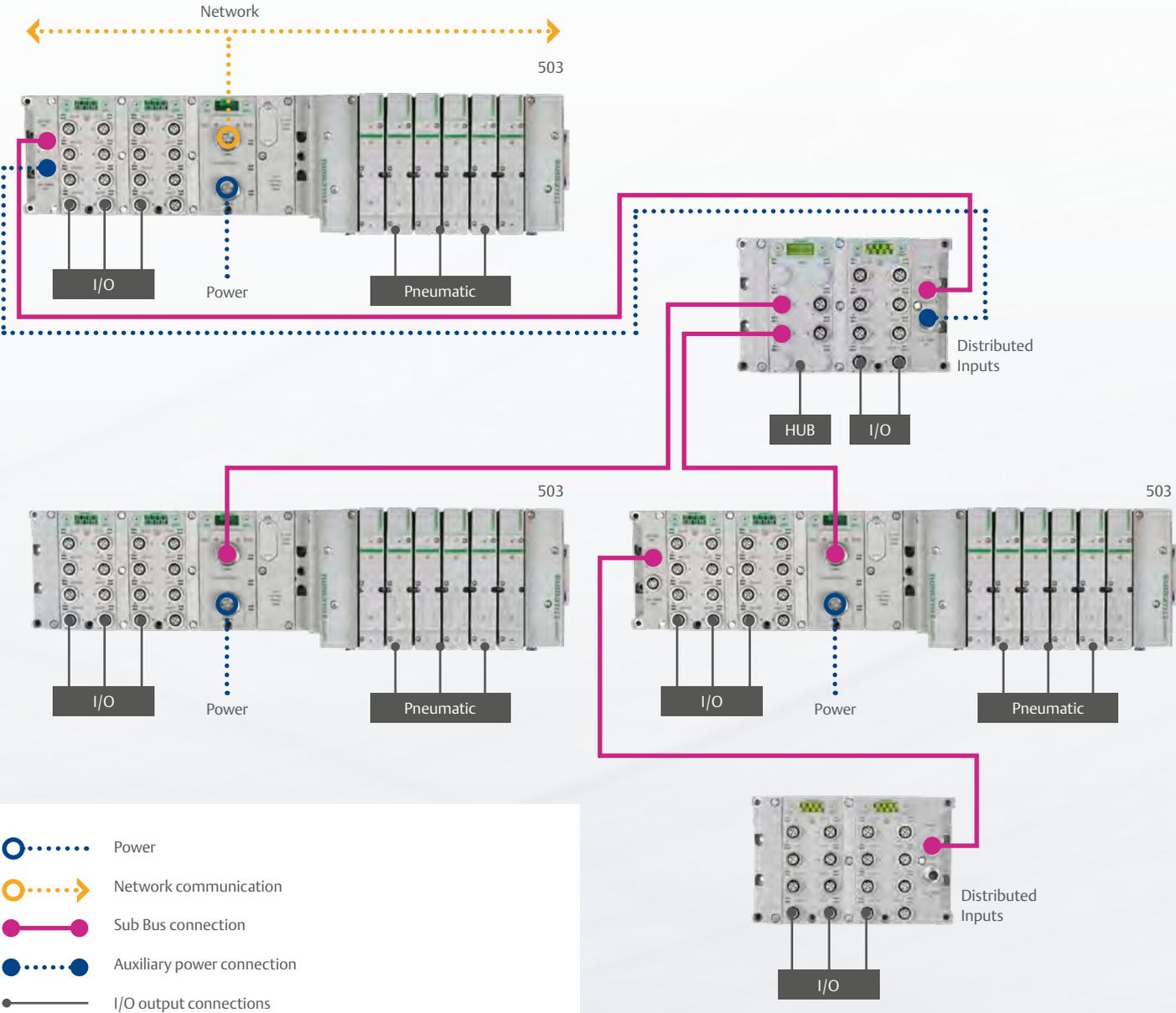


The G3 offers a high-speed, digital distributed solution allowing star or in-line topology, reducing the length of cable runs and pneumatic connections required and helping to lower costs and improve performance. It also provides a wide range of I/O capabilities, including analogue, digital (on/off) and temperature. This helps to make purchasing and engineering simpler as all options can be taken care of with a single device family.

The G3 also comes with a large range of communications options, including:



### G3 distributed Solution



# Electronics Platforms

## 580

The new 580 series offers a compact, affordable fieldbus electronics platform for applications that do not require the full capabilities of the G3. 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.

Just one 580 series fieldbus electronics unit can be used to create a manifold containing up to 32 valves. Building the manifold is easy as no internal wiring is required.

Commissioning is made just as easy. The power connector enables you to isolate all the outputs while leaving the inputs and communications active for commissioning and testing. The clear graphic display enables the network address and the baud rate to be easily set.

The same display makes diagnostics easy too. There is no longer any need to interpret a sequence of LEDs as the display uses plain language to show shorts, open loads, low & missing power and to trigger self-tests.

The 580 series is offered with the industry's widest variety of fieldbus protocols and is certified for use in hazardous and non-hazardous areas.



The 580 also comes with a large range of communications options, including:



# Electronics Platforms

## Multipol

A pneumatic spool valve island designed for easy connection to a PLC by means of a multiwire cable. Multipol reduces wiring time and costs, and makes maintenance easier with a visual display and quick disconnection. Each unit is rigorously tested and equipped with spool valves at delivery.

A Multipol connector offers a means to connect up to 32 solenoid valves to a PLC or control system easily.

The valves are connected to an electronics module that contains a SUB-D connector. A single standard cable is then used to connect the valve island to the PLC or control system. Connecting multiple valves in this way can drastically reduce the wiring time when compared to wiring and terminating individual valves.



# Electronics Marshalling for Pneumatic Systems

## 580 CHARMs node

ASCO are committed to continuously optimising our customer's complex processes - even the way our own products interact with their environments.

That's why we've developed a unique solution for the easy integration of pneumatic systems within the Process Control Environment. By using Electronic Marshalling via our 580 Series CHARMs node it makes it simple to connect to an Emerson DeltaV S-series distributed control system (DCS)

By directly linking the node to the DeltaV system via the CHARM baseplate, the need to connect to create a separate fieldbus network is eliminated, and commissioning is greatly simplified.

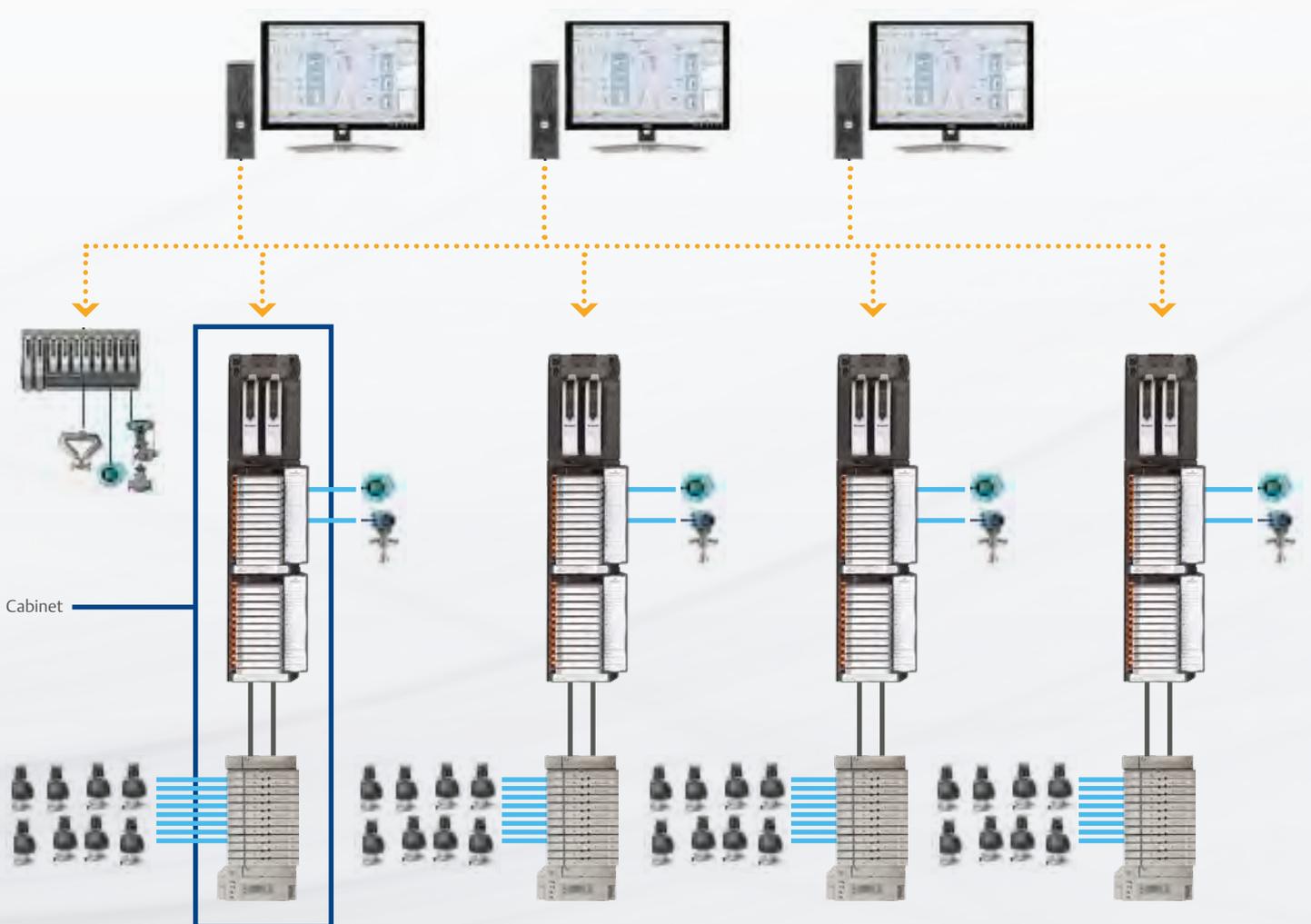
Add to that the reduced number of interfaces, gateways, components and wiring - and it's clear to see how our 580 Emerson CHARMs solution can offer savings on both time and money.

It also offers:

- I/O on Demand using Electronic Marshalling
- Embedded Intelligent control via plain language diagnostics
- The option to easily integrate late I/O additions into the configuration
- Reduced amount of component and direct connection, so reduced risk of system failure
- Reliable redundant connection, reducing your maintenance down time

Electronic Marshalling eliminates all the design, engineering, and disruptive work associated with traditional cross-marshalling and provides you with a single point of contact with one supplier.





Eliminates the need for secondary network to connect pneumatic valve manifolds

# 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 in-cabinet installation, helping you ensure your project finishes on time and on budget.



Series	501	502	503	2035
Connection	M7 2,7x4 or 4x6mm	G1/8 or NPT 4x6 or 6x8mm	G1/4-G3/8 or NPT 6x8 or 8x10mm	G3/8-G1/2 or NPT
Width	11mm	18mm	26mm	41mm
Flow (l/min) ANR	<b>400</b>	<b>650</b>	<b>1400</b>	<b>3820</b>
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 pack	Spool and sleeve or rubber pack	Spool and sleeve or rubber pack	Spool and sleeve
Temperature	-10°C to +50°C			

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

# Modularity

Our valve island come up with extra options to increase the flexibility.

- The transition plate can be used to combine different sizes of valves on the same island
- A Subbase allows two pressures on the same island, without individual regulators

Besides more installation flexibility, this gives you a mix of flow rates and pressures allowing valve piloting and pneumatic systems from the same island.

The modularity of our valves provides 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 to regulate the pressure to an individual valve. Available as a double regulator to regulate the outlet pressure also.



Sandwich pressure blocks enable a supply to be provided to an individual valve, independent of the manifold supply.



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



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



Sandwich exhaust blocks enable the exhaust from individual valves to be piped away independent of the manifold exhaust.

# 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. From pre-assembled products to cabinet-mounted assemblies, solutions are provided for different levels of integration, from simple actuators to boxes and multifunctional cabinets.

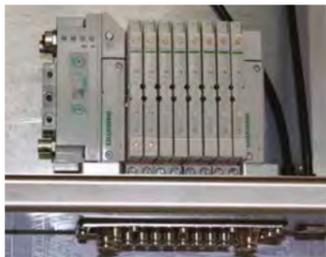
## Space Saving and Simple

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 pre-assembled solutions in cabinets ensure corrosion and

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

## The Complete Solution

From conception to installation, Emerson can provide your complete valve island solution. With a team of experienced design engineers developing new ASCO products using engineering software to create three-dimensional models from P+ID drawings, we can deliver bespoke solutions for your application - lowering the risk of design amendments during the production phase. Furthermore, by providing testing, assembly, delivery and installation, Emerson's 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 Island 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 island configurator tool is intuitive and steps you through the process of selecting and designing a valve island 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 stations.

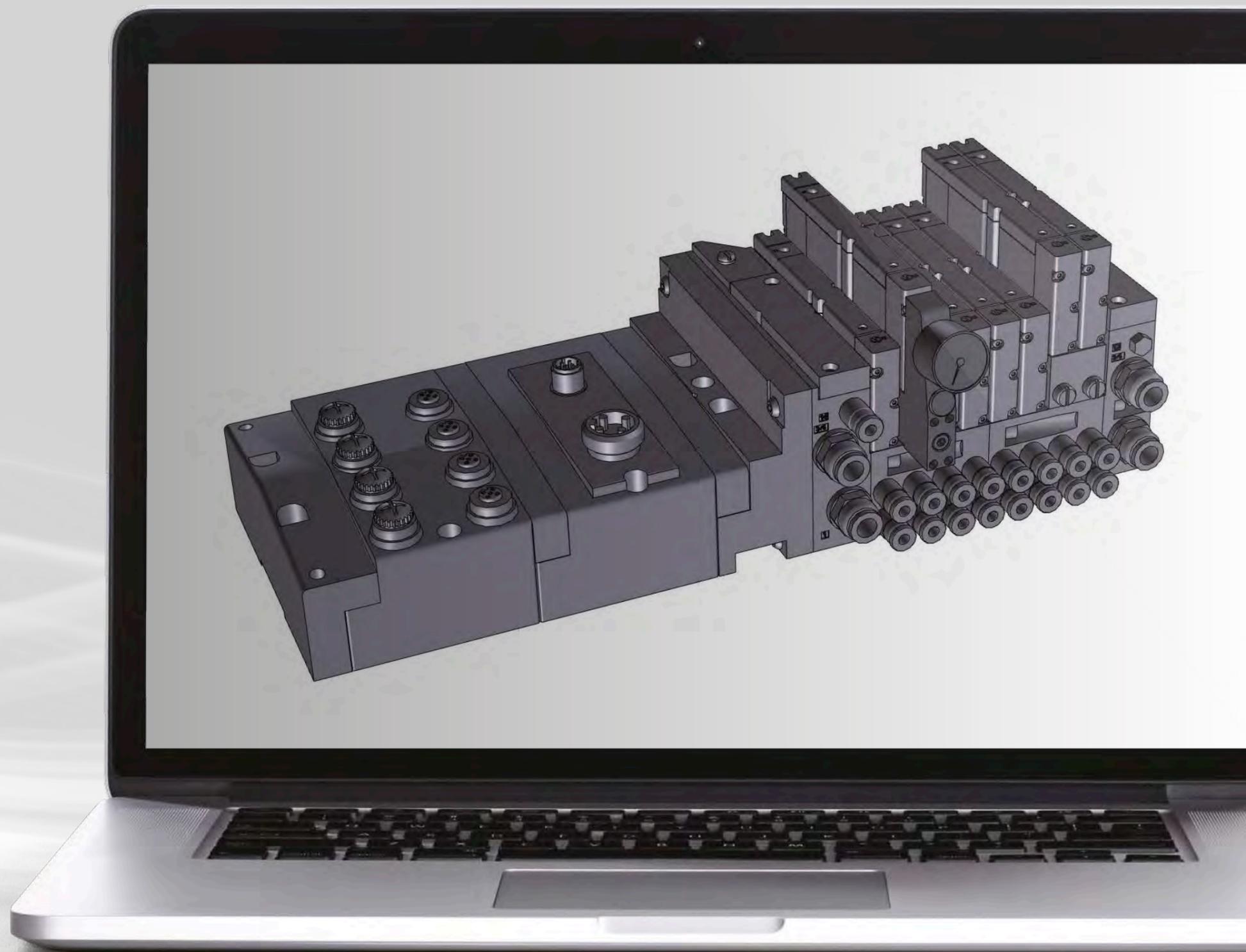
For each I/O station you are able to select the type of I/O required. Typical selections would be Input or output, digital or analogue, RTD input etc. You can also choose the number of I/O required for each station.

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 island for a particular project on their plant.

Visit [asco.com/en-gb/Pages/tools-3d-2d-cad.aspx](http://asco.com/en-gb/Pages/tools-3d-2d-cad.aspx)

Example screenshot of 501 Series.



# Why Emerson

Emerson has an established worldwide reputation for technology innovation and industry leadership. Our technologies have served to transform entire industries, from the creative solutions provided by the smallest detail, to their greater collective impact on the environments we live and work in. Helping our customers achieve that distinct competitive advantage is our priority.

Problem solving is our passion. We are committed to driving technological progress and setting the standards of the future by maintaining a strong focus on research and development, and investment in training and future talent. Our approach includes extensive research on both emerging technology and key global market trends, and our own customer challenges enable us to prioritise our R&D efforts.

Emerson. Consider it solved.



Scan to see ASCO in action  
Or go to [www.asco.com](http://www.asco.com)

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