Innovation and Reliability for the Most Challenging Applications

Fluid Control and Pneumatics Solutions

With the broadest range of products, Emerson solutions are found in a wide array of industries and applications, from Oil & Gas to Packaging.

EMERSON

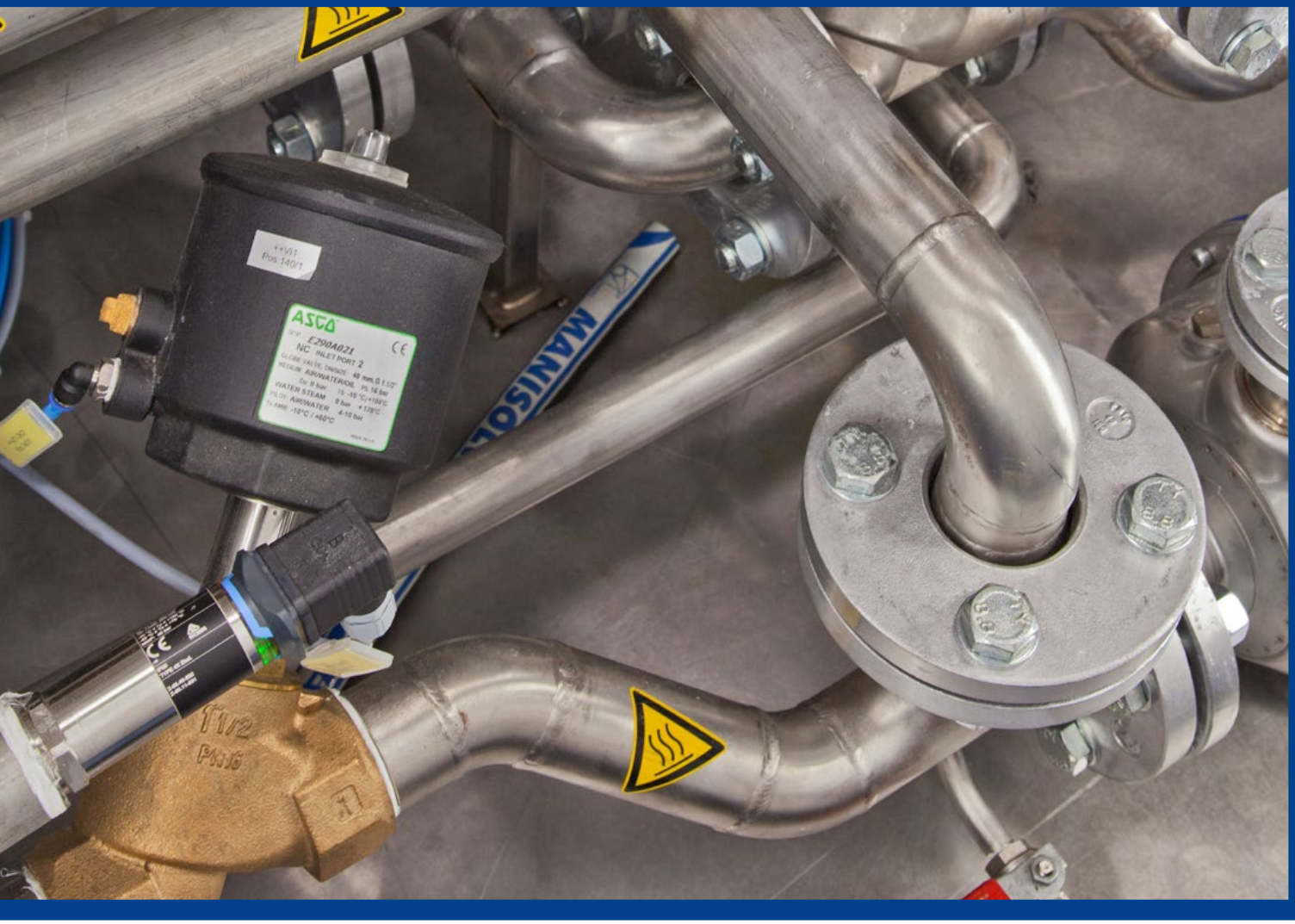
Engineered solutions for diverse applications backed by the power of Emerson

The Power of One Emerson

Emerson's fluid control and pneumatics portfolio applies industry expertise and intelligent solutions to meet your unique business challenges today and tomorrow. We are forward-thinkers—ready to help you with smart technologies, superior product reliability and a proactive, consultative partnership approach designed to improve your performance.

Working with Emerson means you can entrust your business operations to expert partners who are invested in your success. With a commitment to continuous improvement, our industry experts are ready to help you design and install the best solution to ensure operational certainty and measurable, positive outcomes for your application.

Emerson's legacy of expertise in fluid control and pneumatics has been relied upon for decades in process and automation applications, with industry leading product brands ASCO, AVENTICS, TESCOM and TopWorx.



Solenoid Valves

Fluid Control Solutions for Industrial Applications

Emerson's fluid control portfolio is uniquely designed to address the quality and speed of performance required to lead industrial and commercial players into the future. Working with our brand ASCO™, means you can expect rugged, durable products configured for your toughest environments and support from knowledgeable partners who understand your expectations of safety and cost.

Take control of all your fluid control applications needs

- Invest in rugged, reliable 2-way solenoid technologies that can support all media and quickly be sized to your application.
- Take advantage of our global express program—offering reliable, quality products with the largest range of approvals, available for shipping within a matter of days.
- Select from the industry's broadest range of solenoid valve pipe size, pressures, temperature ratings, or flow coefficients available in stainless steel, composite, or lead-free brass.

2-Way Solenoid Valves

General Service 2-Way Valves

ASCO 2-way solenoid valves are widely used in many industrial and commercial applications with its wide range of options, well-proven solenoid technologies and global third party approval. They are designed for high reliable on-off control of all kinds of media. These valves can be normally closed, normally open or universal.

Series 210

High-flow solenoid valves for liquid, corrosive, and air/inert gas service. With a wide range of pressure ratings, sizes, and resilient materials, the ultra-reliable 2-way valves provide long service life and low internal leakage. Configurable with global explosion-proof solenoid options. Available with global third-party approvals.

Series 238

Economical general service valves designed to handle air, inert gas, water, and light oil. The 2-way pilot-operated valve's compact construction saves space, reduces installation time, and simplifies service while its short stroke increases cycle life.

Series 256

These compact solenoid valves are designed for shutoff control for a wide range of Industrial and commercial industry applications. Their compact design allow ease of installation where space constraint is a concern. Mountable in any position and available in multiple manifold configurations.

Series 262/263

These rugged valves handle media such as air/inert gas, water, hot water, steam, light oil, fuel gas, fuel oil, and cryogenic fluids. Suitable for commercial and industrial applications.

Special Service Valves

Cryogenic Valves

ASCO Cryogenic valves are designed to withstand severe service encountered in controlling cryogenic fluids, such as liquid oxygen (-183˚C), liquid argon (-186˚C), liquefied natural gas (-181.6˚C) and liquid nitrogen (-196˚C). All valves are degreased, cleaned, tested and packed to keep away from moisture. Available with global third-party approvals.

Hot Water and Steam Valves

Hot water service to 14.5 bar (210 psi) differential @ 98˚C (210˚F) and Steam service to 8.6 bar (125 psi) differential @ 178˚C (353˚F). Specify these valves for the high-temperature applications found in laundries, molding, steam atomization, sterilizers, autoclaves, and others.

Visit Emerson.com/ASCO to learn more about our fluid control solutions.

3-Way Solenoid Valves

General Service 3-Way Valves

ASCO 3-way solenoid valves have three pipe connections and two orifices. When one orifice is open, the other is closed and vice versa. They are commonly used to alternately apply pressure to an exhaust pressure from a valve actuator or a single acting cylinder. These valves can be normally closed, normally open or universal.

Series 356

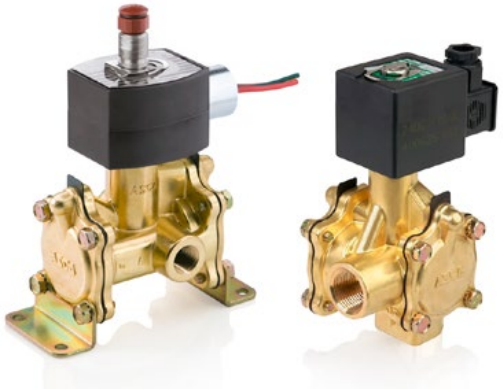
ASCO Series 356 solenoid valves have a lightweight, compact design for the control of single-acting actuators or filling or draining cycles. The brass or stainless steel constructions feature a wide range of elastomers and tight shutoff poppets for specialty service applications.

Series 314

The ASCO Series 314 is a line of direct acting, general service solenoid valves which can be used as moderate flow pilots for smaller control valves and actuators. With only a spring and two moving parts, the valve is ideal for basic 3-way piloting operation.

Series 316

The ASCO Series 316 is a line of high flow, general service solenoid valves, which can be used to pilot large actuators and provide quick closing of large control valves. The diaphragm poppet design is suitable for controlling air, inert gas and liquids. Its resilient seating achieves tight shutoff.



Series 320

Series 320 solenoid valves are designed for a broad range of applications. The direct-acting valves are available in voltage-ranging, harsh-environment, direct-mount, dribble-control, and long-life constructions. They are suitable for use in analytical and diagnostic equipment, dust collector systems, life sciences, and press room metal stamping.

Visit Emerson.com/ASCO to learn more about our fluid control solutions.

4-Way Solenoid Valves

General Service 4-Way Valves

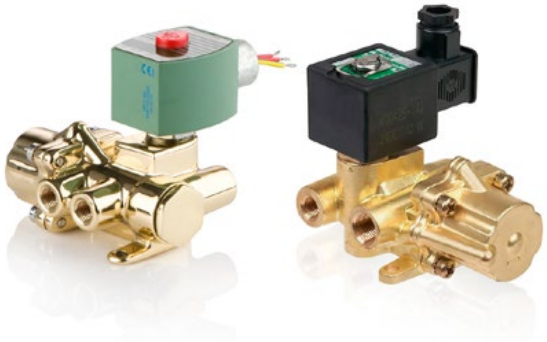
ASCO 4- way valves are generally used to operate double-acting cylinders or actuators. These popular valves have four or five pipe ports. One pressure inlet, two cylinder ports providing pressure to the double acting cylinder or actuator and one or two outlets to exhaust pressure from the cylinders. They have three types of construction - single solenoid, dual solenoid or single air operator.

Series 342

The ASCO Series 342 Series is a line of high-flow, slide-style valves available with single or dual solenoids. Its direct-acting operation and high-flow construction make it ideal for analytic and diagnostic equipment, biofuels, dust collector systems, heating equipment, and refining applications.

Series 344

ASCO Series 344 valves incorporate a piston-operated poppet design for high flow in a variety of applications. Their sturdy, robust construction can be used with air or water media. The 344 Series is suitable for use in analytical and diagnostic instruments, biofuels, heating equipment, life science production, and refining.



Series 345

Series 345 is a low-cost line of 4-way general service valves are designed for low-flow applications. The valves are commonly used in analytical and diagnostic equipment, biofuel and heating systems, and refineries.

Series 551/553 Spool Valves

These compact solenoid spool valves are ideal for controlling air or inert gas in challenging environments. The valves' unique design combines hard T-seals and flexible O-rings that provide bubble-tight shutoff, dirt resistance, and multi-million cycle reliability. Aluminium, brass and 316L stainless steel body options make these suitable for all environments.

Air-Operated Valves

Series 290/390

The ASCO Series 290/390 is a pressure-operated, direct acting angle-body piston valve built for a number of demanding applications. Its straight-through body design is available in bronze or stainless steel. The valve is suitable for general service applications (air, inert gas, water, oil and light slurries) plus steam, hot water and auxiliary fluids within the food and beverage industry. Anti-water hammer design and back-pressure resistance ensured extreme high reliability and long service life. Wide range of option features available including proportional control, a visual/electrical position indicator or a stroke limiter.

Series Q117/Q217/Q317

ASCO Series Q117 & Q217 (2 way) / Q317 (3 way) are designed for operation under very harsh conditions with good resistance to thermal shock (steam followed by cold water cycles). Ruggedly built , particularly recommended for steam, superheated water up to max 230˚C and high ambient temperatures up to 140˚C. Air-operated stainless steel piston structure is able to withstand a maximum pressure of 32 bar. Compact design reduces installation space and cost-optimized fluid flow geometry allowing high flow rates.

VA and VG Series

TESCOM VA and VG Series are air operated valves offering normally open/ normally closed capabilities, operating pressures up to 15,000 psig / 1034 bar, very high cycle life and optional integrated solenoid valve. Suitable for liquid and gas applications. Ideal for use in high pressure on/off control. Air operated and manual versions available, optional solenoid. Example uses: high pressure cycling testing, pneumatic and hydraulic control panels and R & D labs. Main value differentiator: high cycle life (long life span), high quality, smaller footprint compared to air actuated all valves, leak tight seal.

Visit Emerson.com/ASCO to learn more about our fluid control solutions.

Proportional Valves

Series 202/203

ASCO Series 202/203 Posiflow proportional solenoid valves are suitable for use in air/gas, low vacuum service, as well as to precisely control flow of water. Flow rates adjustable between 0% and 100% of rating. Flow rates can also be regulated by a range of electrical inputs (sensors, transmitters, PLC, etc) via an ASCO electronic control unit or similar circuit. The valves are ideal for applications with the needs of precise flow control or temperature control like semiconductor, food and beverage, medical and life science, and water applications.

Series 290

ASCO Series 290 Proportional Valves with Positioner[D] or with motor is suitable for use in process and industrial applications where a robust valve and precise flow control are required. It can be used in applications like water treatment, pharmaceutical, petrochemical and food & beverage. Angle seat valve body is designed for aggressive fluids like light slurries, viscous media, sterilization, and steam. Series 290 proportional valves provide superior safety with fail-close construction upon loss of power. LED indicators are available for valve status display.

Series 607

ASCO series 607 Flowtronic[D] is a digitally operated flow control valve for gases up to 1000 l/m. It consists of a fast, direct operated 2-port proportional valve and a control unit which contains all the control electronics and sensors. The Flowtronic[D] offers precise flow adjustment and responds to outside influences within no time at all.

Visit Emerson.com/ASCO to learn more about our fluid control solutions.

Pneumatics

Proven automation solutions to help you overcome your toughest challenges

Emerson's strengthened fluid control & pneumatics portfolio is uniquely positioned to address the performance and flexibility needs required for the automation of current and future generations of machines. Working with our top brands means you can expect durable products configured for your application and connected to you information chain, as well as global service for unequaled distribution and support.

Actuators	Valve Technology	Air Supply Management
Cylinders, drives, accessories	Valve systems, directional valves, proportional technology	Maintenance units, pressure/flow senors, pneumatic connection technology

Modular sealing system

The modular sealing system enables individual adaptation to the requirements of the respective application. This means maximum flexibility, optimal scraping, higher performance, and lower costs for maintenance and downtime. Standard for the ITS cylinder series and optional for PRA and TRB series cylinders.

Each of the cylinder series features five scraper modules according to ISO 15552. They are available separately with fully installed seals, bushings, and metal scrapers, and can be exchanged at any time, quickly and easily, without removing the cylinder.

Modular scrapers for PRA/TRB

Modular scrapers for ITS

Profile and tie rod cylinders

PRA series (ISO 15552)

PRA cylinders are based on a compact aluminum profile with integrated 4 and 6 mm sensor slots for simple, space-saving installation of sensor technology.

TRB series (ISO 15552)

TRB cylinders with a classic design featuring smooth tubing and tie rods offer an impressive load capacity and adaptability to existing processes.

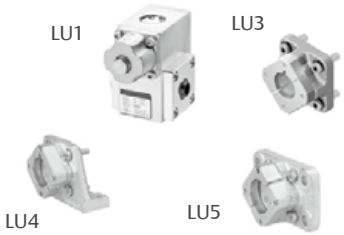
ITS series (ISO 15552)

ITS cylinders are used for moving masses in the ton range. As standard, they are equipped with a configurable scraper module from the modular sealing system.

Locking units

LU1 – LU5 locking units

With eccentric movements, the units hold the piston rod in any position. Mounting to the cylinder is realized via a flange.



HU1 series holding unit

The HU1 series holds piston rods using spring force. A corresponding adapter is used for attachment to the cylinder. Holding cartridges can be exchanged in case of wear.

LU6 series locking unit

The LU6 is a mechanical holding unit/dynamic brake for piston rods in pneumatic cylinders according to ISO 15552 or comparable round bars. The unit can be used in safety-related controls in accordance with ISO 13849.

LU6
Dynamic brake

For further information on these or any other AVENTICS product, visit **Emerson.com**

Rodless Cylinders & Guided Slide Units

Permanently connected to the slide, the oval piston can withstand higher loads and moments than the round piston. Users achieve the same performance with far more compact cylinders, which cuts down on weight and costs.

RTC series

RTC offers four variants with different strengths for movement and positioning as well as a wide range of speeds. As a basic version, compact guide, and heavy duty for heavy loads.


RTC-BV


RTC-CG


RTC-SB


RTC-HD

Mini and round cylinders

MNI series (ISO 6432)

Our smallest standard cylinder series for universal application in mechanical engineering. It is available in many variants and is characterized by extreme durability and a long service life.

ICM series (ISO 6432)

Cylinders from the ICM series are corrosion-resistant and durable. The cylinder is standardized according to ISO 6432 but also available in a more compact length. The cylinder tube and piston rod are made of stainless steel while the cover is made of high-quality plastic.

Mini slides and guide units

MSC series

MSC stands for maximum rigidity for high torques and loads. Versatile configuration options make the mini slide a truly universal handling component, ensuring great flexibility in machine design.

GPC series

The robust design is particularly reliable and absorbs high torques and transverse forces. The E and ST variants offer users a particularly cost-efficient handling solution.

TRR series rotary cylinder

The TRR series can realize angles of rotation up to 360° and torques up to 110 Nm and offers adjustable pneumatic cushioning.

Short-stroke and compact cylinders

CCI series (ISO 21287)

The CCI series is ideal for increased cycle and moving massrequirements. It has a compact, easy-to-clean design with integrated sensor slots on all sides and offers a wide range of variants and equipment details, e.g. an ATEX version or US version.

SSI series (ISO 15524)

The SSI short-stroke cylinders according to ISO standard 15524 feature a particularly short design and are up to 30% lighter than comparable cylinders thanks to material and component optimization. The 4 and 6 mm slots on all sides provide maximum flexibility for sensor installation.

KHZ series

KHZ series cylinders feature an extremely compact design and are available from a piston diameter of 8 mm. They are ideal for installation in the tightest of spaces and can be assembled anywhere, easily and securely.

Visit Emerson.com/AVENTICS to learn more about our cylinder offering.

Tie Rod Cylinders

PRA series (ISO 15552)

PRA cylinders are based on a compact aluminum profile with integrated 4 and 6 mm sensor slots for simple, space-saving installation of sensor technology.

PRA with modular scraper (optional)

TRB series (ISO 15552)

TRB cylinders with a classic design featuring smooth tubing and tie rods offer an impressive load capacity and adaptability to existing processes.

ITS series (ISO 15552)

ITS cylinders are used for moving masses in the ton range. As standard, they are equipped with a configurable scraper module from the modular sealing system.

ITS with modular scraper (integrated)

CCL-IS series (ISO 15552)

This cylinder is produced specifically for packaging applications in the food industry. It is characterized by practical sensor mountings and its hygienic design that combines simple cleaning with low maintenance.

CVI series (ISO 15552)

Custom units can be configured online with the PRA and TRB ISO cylinder series, and five freely combinable valve series.

Bellows Actuators

Series BCP, BCC, BRB, BCR

Our range offers four series for different areas of application. All bellows actuators enable high forces in the tightest of spaces and are virtually wear and maintenance-free. They are available in many sizes, with different versions and rubber qualities, in single, double, or triple bellows variants.

BCC

BCR

BCP

BRB

Visit Emerson.com/AVENTICS to learn more about our cylinder offering.

Pneumatic valves and valve systems

Innovation and quality from Emerson. With precision, our valves and valve systems control the pneumatic players in all automation processes. Whether as a group in a system or an individual performer, we have everything for you – best in class.

More than just a valve system

Series AV is a complete automation solution with near-record switching times and an unbelievable size-to-output ratio. Up to 64 double solenoid valves can be added modularly to the board and freely combined with the AV03 and AV05 sizes.

The G3's functionality allows programmable logic controllers to more efficiently turn valves on and off, and to channel I/O data from sensors, lights, relays, individual valves, or other I/O devices via various industrial networks. The G3 is the only pneumatic valve manifold that contains a graphical display used for configuration, commissioning, and diagnostics. It offers improvements in application, performance, and maintenance for original equipment manufacturers (OEMs) and end users alike.

AES electrical connection

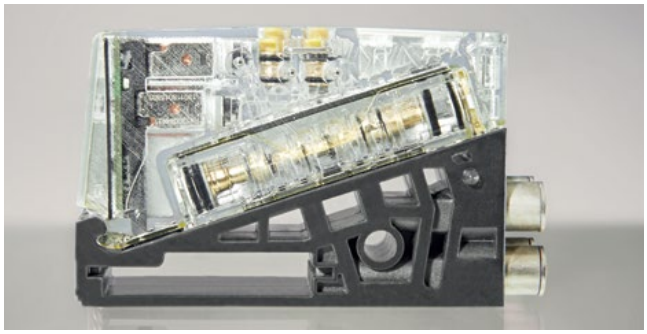
The Advanced Electronic System (AES) is responsible for serial data exchange between the controller and the AV family components. The flexible, modular structure of the AES and its wide range of variants offer additional advantages. Modify, exchange, upgrade – quickly and easily.

Fewer parts, an optimized design principle, and polymer technology have made the AES bus coupler up to 60% smaller and 70% lighter than existing products.

AES can be used with valve technology or as a stand-alone solution, for all common fieldbus protocols or, alternatively, with IO-Link connection.

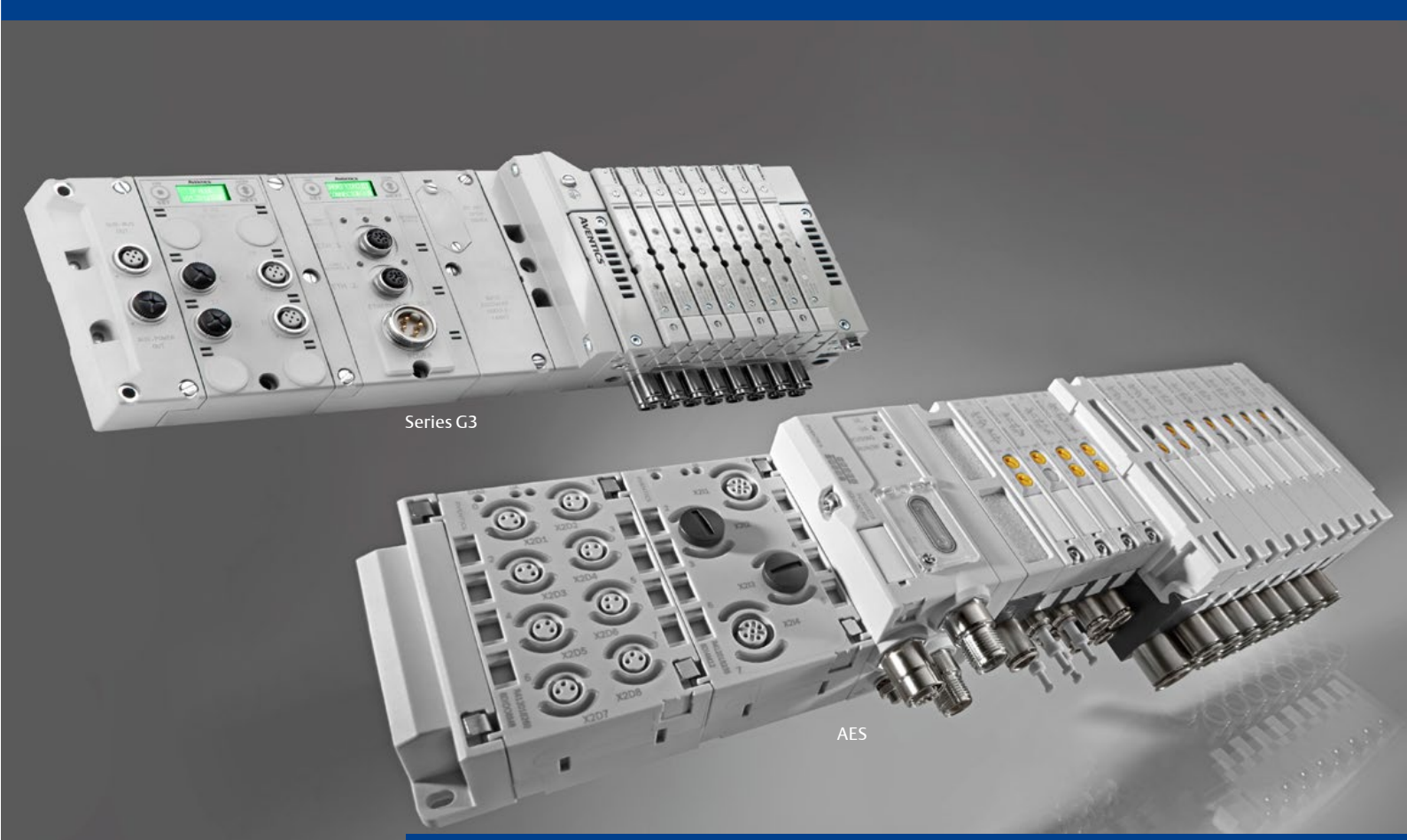
AES
bus coupler

IO-Link



AES highlights	
Number of valve coils	128
Max. possible I/O modules	10
Protection class	Max. IP65
I/O functionality	Digital/ analog/pn. pressure signal
Connection options	M8, M12, D-SUB, spring clamp

PROFINET EtherNet/IP EtherCAT Technology Group ETHERNET POWERLINK
PROFIBUS CANopen DeviceNet



Modularity, a key feature of the AES: digital and analog I/O modules with ring LED for each plug. AES bus coupler. Simple, subsequent addition of I/O modules. Tool-free connection of I/O modules.

Series G3 & 580 Electronics platform

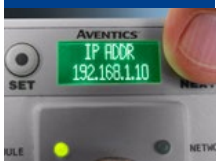
G3/580 Series is the premium series of a completely modular Fieldbus valve island system.

The innovative graphic display is used for easy commissioning, visual status & diagnostics.

All of the G3 electronic modules plug together via mechanical clips, allowing easy assembly and field changes. This makes the system highly distributable.The G3 electronics interfaces with the highly modular Series 500 Directional Control Valves.

Auto Recovery Module (ARM) protects configuration information during a critical failure. Allows configuration to be saved and reloaded to replacement module automatically.

Graphic Display



Highley Distributable

Easy Robust Connections

G3 highlights	
Number of valve coils	128
Max. I/O modules	16
Protection class	IP67 (w/o valves)
I/O functionality	Digital/ Analog. High power digitla/analog RTD input Ex ia input Branch Hub Sub-bus module IO-Link Master
Connection options	M8, M12, spring clamp

PROFINET · EtherNet/IP · EtherCAT Technology Group · ETHERNET POWERLINK

PROFIBUS · CANopen · DeviceNet · IO-Link

CHARMs

Valve systems

AV03/AV05

AV Series is a complete automation solution that can continuously be adapted to the requirements of the application thanks to its consistent modularity. Its unique design, low weight, and optimized compact size with an increased function density offer clear product advantages.

AV05

Series 500 & ISO 15407-2

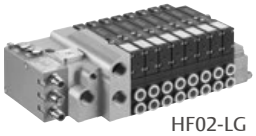
The Series 500 manifolds feature high flow rates in compact, energy-efficient packages. Each modular unit is compatible with fieldbus electronics, as well as leading industrial and Ethernet protocols. Modular design facilitates configuration while flexible mounting eliminates tubing and connections. Compatible with G3 and 580 Fieldbus Electronics.

Series 500

HF02-LG/HF03-LG series

HF means high flow and high functionality with extensive equipment options. The valve series offers flexible installation options and is particularly service-friendly thanks to easy valve exchange and excellent diagnostic strength.

HF03-LG



HF02-LG

Series 511, 512, 513

The series 511, 512, 513 are a line of high-speed, heavy-duty pneumatic valves designed for general service on a wide variety of automation applications. The valves comply with ISO standard 5599/2 for valve-unit-to-base interchangeability. The rugged, multi-purpose valves employ patented spool-and-sleeve assembly for ultra-reliable performance.

581 series

The 581 series is the valve system for ISO standard 5599-1 and offers all valve functions with an extensive range of accessories. It is available in sizes 1 – 4, has integrated throttle valves, and can be equipped with various pilot valves.

581

Series 2035

The Series 2035 Series is a line of modular directional control valves. Designed with plug-together flexibility, the valves eliminate internal wiring and are easily configured. The 2035 Series is highly energy efficient and supports electronic interface/bus protocols suitable for automotive, tire manufacturing, and metal stamping applications.

Series ES05

The ES05 is a valve system that has been designed especially for standard pneumatic applications and industrial automation. With flows up to 0.61 Cv, ES05 is sufficient to cover the majority of applications. Simple, flexible and efficient – without the bells and whistles.

Series MK55

The Series Mark 55 valve line is designed for repeatable and reliable performance in harsh and challenging environments. Ideal for high cycle-rate machine operations. The Mark 55 Series´ modular design permits easy configuration and is well suited for automotive, bottling,press room and stamping, and tire manufacturing applications.

Visit Emerson.com to learn more about our valve systems and capabilities.

Single Valves

YA/YB & J3 Series

The Series YA / YB & J3 valve with classical Numatics stainless steel spool and sleeve design and offers CVs from 1 up to 2.5 and port size from 1/8 to 1/2. Low power design and multiple voltages available. YA/YB series valves come with a wide variety of options for 22mm epoxy coils.

YA/YB

J3

C Series

The Series C is a multi-function compact spool valve designed to ISO 5599/1 standard. This 5-ported, 2 and 3 position valve has a lapped spool and sleeve assembly and is available in AC or DC. Cv up to 5.3

TC series

TC series single valves consist of two size variants, TC08 and TC15, with flow rates of 800 and 1,500 l/min respectively. The valves can be operated both pneumatically and electrically. In addition, they are extremely easy to install. They offer flexible electrical and pneumatic connection options and can be mounted to practically any level surface via through holes.

TC08 TC15

Electrically operated

Pneumatically operated

CD series

The CD series is available in three sizes as electrically, pneumatically, and mechanically operated valves. They are extremely robust and reliable, even in harsh working environments. The valves are even designed and approved for use in declared danger zones as they are resistant to mechanical loads, extreme temperature differences, and electrical voltage fluctuations.

Pneumatically operated | Electrically operated | Mechanically operated

CD04

CD07

CD12

579 series

The 579 series offers users an especially cost-optimized 3/2 or 5/2 directional valve solution with poppet valve technology. They provide many integrated functions and can also be assembled into valve blocks.

740 series, 840 series

These series of valves are extremely robust and work without any problems, even with poor air quality and under tough conditions, thanks to their robust plastic housing and integrated diaphragm technology.

840

740

Visit Emerson.com to learn more about our valve capabilities.

On-demand, continuously adjustable, and proportional dynamic pressure control

Electropneumatic pressure regulators

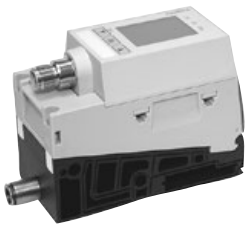
Depending on the respective task, three different control principles are applied in electropneumatic pressure regulator technology: indirect control with pilot valves, direct control by means of a proportional solenoid, and highly dynamic control via two integrated proportional solenoids. Emerson is a technological leader in all of these principles and has the right solution for every application.

ER5000 Series

The Tescom ER5000 Series is a microprocessor based PID (Proportional, Integral, Derivative) controller that brings precise algorithmic pressure control to a wide range of applications. It can be used as a standalone unit to control the pressure of inert gases or natural gas from 0 to 100 psig / 0 -6.9 bar, or be connected to any pneumatically actuated regulator. When used with regulators, the ER5000 provides pressure control of gases and liquids from vacuum to 30,000 psig / 2068 bar. The ER5000 is ideal for situations requiring precision pressure or flow control without all the cost of a control valve. Differentiators: precision and accuracy, adaptability; hundreds of variables for control; ER5050: hazardous locations.

AV-EP Series

AV-EP series electropneumatic control valves are the ideal solution for the AV03/AV05 valve system. They can be fully integrated with all functions and provide the desired working pressure directly at the regulator via fittings or supply pressure to the switching valves adjacent to the regulator. The pressure can be set and controlled via the membrane keyboard and display or via multipole or fieldbus.



Proportional Pressure Regulators

Series 617 Sentronic LP

The Series 617 Sentronic LP is a family of highly efficient and cost-effective proportional valves with digital control that is ideal for pressure regulation requirements. It offers a small footprint and easy-to-use modular design. Valve control loop parameters can be optimized for a specific application using complementary Data Acquisition Software (DaS). The valve offers low power consumption (<4 W) and has a quick response time.

Series 608/609 Sentronic D

The Series 608/609 Sentronic^{D} are 3-way, direct-operated proportional valves with digital control for air or neutral gas fluids. Their quick response times and high sensitivity make them the perfect fit for applications requiring highly precise pressure control. The valves are ideal for automotive and tire, analytical and diagnostic equipment, and bottling applications.

Series 614 SentronicPlus

The Series 614 SentronicPLUS is a 3-way digitally operated pressure regulator valve that accurately adjusts pressure, flow, force, speed, and linear or angular positions to control air and inert gas media. Designed for use in potentially explosive atmospheres, and provides control at an extremely low hysteresis. Parameters are easily configured and optimized for specific customer requirements using Data Acquisition Software (DaS) and a PC connection. Designed for applications with very dynamic pressure requirements.

Electropneumatic Pressure Regulators

ED02 Series

ED02 is our compact regulator. With its performance values, it presents an optimal control solution for many applications. On top of that, it is easy to stack.

ED02

ED05 Series

ED05 is a versatile regulator based on the principle of direct control with one proportional solenoid. It combines precision and high dynamics with a high flow.

ED05

ED07/ED12 Series

ED07 and ED12 are E/P valves for highly dynamic control. They can realize high air flow rates and offer particularly dynamic control characteristics thanks to proportional valves for pressurization and exhaust that can be controlled separately.

ED07/ED12

EV03/EV07 Series

EV03 and EV07 works according to the principle of indirect control with pilot valves. The E/P valves are optimal for static requirements and feature an extremely low energy consumption.

EV07

EV03

Visit Emerson.com to learn more about our proportional control capabilities.

Air Preparation

The demands on our pneumatic solutions are high – so there is no room for shortcomings. Our Air Supply Management spoils them with the best possible air conditions. Backstage! Tailored to the application, right on target, finely filtered, and well-oiled – a guaranteed success. Our program: from maintenance units to tubing, everything is perfectly matched.

Air Preparation

651/652/653 Series Air preparation units

This line offers you complete, customizable compressed air preparation technology. It includes an option to combine every component in the series to achieve the desired function, making it possible to adjust the components precisely to the application requirements.


651


652


653

AS Series Air preparation units

The modular versatility of the AS series makes it perfect for universal application. With four size variants, they cover the entire operating range up to a flow of 14,500 l/min and enable not only the standard functions of filtering, regulating, and lubricating but also the integration of all specifically required functions.


AS2


AS5


AS1


AS3

MU1 Series, PR1 Series, PR2 Series pressure regulators

MU1 enables the secure, reliable control of great compressed air flows of up to 50,000 l/min. PR1 and PR2 series precision pressure regulators present an alternative to the electropneumatic pressure regulators. They can be adjusted exactly and allow for extremely fast responses to the slightest fluctuation in compressed air.


MU1


PR1


PR2

50 Series high-flow regulators

The 50 Series is a high-flow, high-pressure line of pneumatic filters, regulators, and lubricators (FRLs). Its rugged design can withstand the most challenging environments. The FRLs are available in ½-inch to 1.5-inch NPT and G port sizes.

Delta Series high-flow filters

Premium filtration for applications which require high flows. The standard aluminum end caps on every element, premium manual drain, seals made of Fluorocarbon (FKM), and available 3 micron internal pleated prefilter sets the Delta Series apart from our competition.

Visit Emerson.com to learn more about our air preparation solutions.

Non-Contact Transport System

NCT non-contact transport system

The unique, gentle NCT gripper technology is available in two material versions. NCT-AL (aluminum) is suitable for all standard applications. NCT-PK (PEEK) grippers are designed for special requirements in the food, semiconductor, and solar industries and enable direct contact with foods or silicon.

NCT-AL

NCT-PK

Vacuum Cups and Vacuum Accessories

Vacuum cups

Whether angle joints, flow valves, vacuum filters, spring-loaded plungers, the right fitting, or the entire range of vacuum cups – along with vacuum ejectors, our program offers everything required for a vacuum-based pneumatic solution.

Vacuum Ejectors

EBS series

The ESB series features inline ejectors with axial compressed air and vacuum connections for direct installation in the vacuum line as well as compact ejectors with several integrated functions: vacuum generation, pilot valves, filters, switches, and silencers.

EBS inline

EBS compact ejectors

Vacuum Ejectors

EMS series

Enormous suction capacity with maximum efficiency – the multistage ejectors with multiple Venturi nozzles connected in series offer a very high suction capacity, making it possible to handle workpieces with difficult-to-seal surfaces.

EMS 25
EMS 50

EMS 100

ECD series

From Basic, Smart, Intelligent, to Large: ECD series ejectors are available in four modular versions with functions, sizes, and features that can be selected as needed.

ECD-BV

ECD-IV

ECD-SV

ECD-LV

Visit Emerson.com to learn more about our vacuum capabilities.

Pressure & Flow Sensors

PM1 Series pressure sensor

With PM series electromechanical pressure switches, switching points are set manually. The adjustment screw can be fixed easily and securely. The switching point is continuously adjustable, even during operation.

PE Series pressure sensor

The electronic pressure sensors of the PE series can be used in virtually all applications and are easy to integrate into existing compressed air preparation systems. They feature a high degree of switching precision and repeatability with optimal operating comfort.

AF1 Series flow sensor

The AF1 operates as a differential pressure flow rate sensor with flow range of up to 5000L/min. An integrated LED screen with setting button offers an easy way to set and read flow rate, volume, or pressure. Offering 2 digital and 1 analog channel output signal for different control requirements.

Flow & Check Valves

NR Series non-return valves

Thanks to an array of connection options, the NR non-return valves can be screwed in separately and are also suitable for direct installation in piping.

Shut-off valves, quick exhaust valves

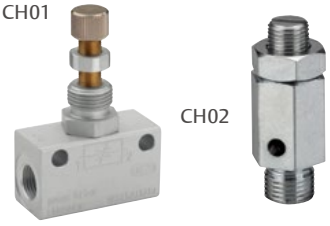
Designed for safety-relevant processes, the valves enable automatic blocking of the air supply to immediately stop the working stroke.

Shut-off valves

Quick exhaust valve, 573 series

CH Series check-choke valves

CH series check-choke valves can be used for nominal flows up to 4,100 l/min. The series features special versions with integrated silencer and screw-in variants.



Pneumatic Connection Technologies, Silencers

QR series push-in fittings

The push-in connectors with easy, secure mounting are available in many versions: for tubing diameters from 3 to 16 mm, as well as in plastic, metal, and stainless steel variants. Our QR program offers the right solution for every application and industry.

QR1-S mini

QR1-S standard

QR2-S standard

QR2-C stainless steel

SL1 Silencers

TU series plastic tubing

Visit Emerson.com to learn more about our pneumatic accessories.

Industrial Internet of Things (IIoT) & Industry 4.0

IIoT Hardware Solutions: Edge Gateway, SPA and AF2 Air Flow Sensor

The RXi2-LP Edge Gateway is an industrial PC (IPC) edge computer with an IIoT software stack called PACEdge. It delivers compact, rugged, low-power and cost-effective performance computing capabilities to run HMI data recording, historian, analytics and dashboard applications right at the machine, enabling improved real-time operational control and plant-wide systems integration.

- Open architecture – flexibility to adapt to your needs
- Data analysis independent of the controller
- Advanced OPC UA and MQTT support
- Multiple air flow sensors (AF2s) and valve systems that connect from one gateway
- Powerful data visualization to easily turn data into actionable insights

The AVENTICS Smart Pneumatics Analyzer (SPA) monitors pneumatic installations and systems, visualizing the analyzed data. This integrated IIoT edge gateway with PACEdge (RXi2-LP) continuously records data from the integrated sensors of the air preparation unit (AF2), enabling users to improve overall equipment effectiveness (OEE) and optimize machine efficiency and sustainability.

- Local preparation of data (edge computing) and visualization of sensor data
- No additional software (web browser) required
- Measure without overriding PLC-controlled process
- Portable for use on different machines
- Instant data analysis and ROI calculations – ideal for organizations new to IIoT

The AVENTICS Series AF2 Air Flow Sensor monitors air consumption in pneumatic systems, enabling fast action if leaks are detected. This series helps optimize energy consumption, prevent machine downtime, lower costs and reduce your CO2 footprint.

- Large flow measurement range and integrated pressure sensor for a broad spectrum of applications
- Comprehensive communication options via analog, IO-Link, OPC UA and MQTT or Ethernet interface
- High flexibility for system integration
- Integrated analytics to provide actionable insights
- Configurable in air preparation units or as a sensor/filter combination

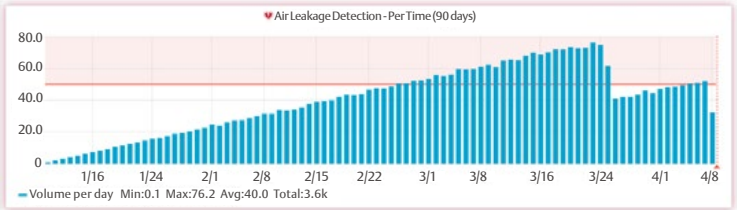
IIoT Analytics Software

With our wide variety of analytics software solutions, combined with our IIoT hardware, you can:

- Monitor energy consumption and detect air leakages to improve energy efficiency and sustainability
- Monitor valve and cylinder health through predictive maintenance, reducing unplanned downtime and improving OEE

You'll receive notifications when leakages or anomalies are detected during manufacturing and get email alerts when a critical threshold is breached in the manufacturing process.

Alerts
Air Leakage Detection - Per Time (90 days) alert
ALERTING for a few seconds



Valve Monitoring - Cycle Counter Table

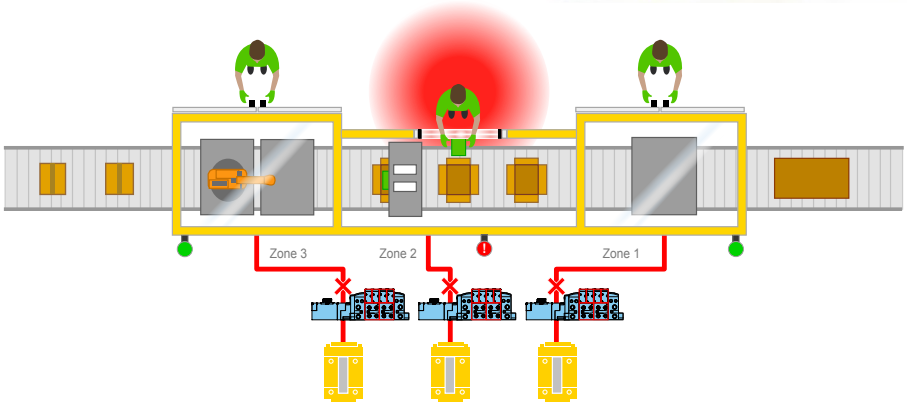
Name	Lifetime	Percentage	Current	Status
Valve 1	75.000.000	67%	50.001.682	
Valve 2	75.000.000	86%	64.321.405	
Valve 3	75.000.000	95%	71.432.407	
Valve 4	75.000.000	99%	74.001.611	
Valve 5	75.000.000	101%	76.000.537	

Visit Emerson.com/Digital-Transformation-Pneumatics to learn more about our IIoT capabilities.

Safety Solutions

Series 500 zoned safety manifold

The zoned safety manifold is a highly reliable and flexible solution for complex pneumatic systems. It allows isolation of the air supply to keep operators safe without unnecessary disruption to production. The integrated approach simplifies redundant pneumatic safety circuit design with a single valve system, making it possible to configure up to three discrete zones per machine. This simple, user-friendly solution helps the design engineer satisfy the Machinery Directive 2006/42/EC and comply with ISO 13849-1 while eliminating the components and complexity commonly found in existing safety circuits.



Series AV Valve System

The numerous electrical and pneumatic connection options make the AV valve system a strong performer that easily adapts to the demands of safety-related pneumatic controls. The consistent modular design offers additional functions at your fingertips and is impressively systematic. This comfortable approach simplifies your project planning for machine safety. As a result, you can meet even the most demanding of requirements with ease, giving you a crucial competitive edge.

AS3-SV Series

The AS3-SV valve assumes the redundant exhaust safety function, as well as protection against unexpected pressurization, reducing risks significantly. The valve only activates compressed air supply when all conditions for a safe system start-up have been met.

Series SV01-03-05 Directional Control Valves

The AVENTICS Series SV01/03/05 double valves are redundant 3/2 and 5/2 valves for external monitoring that are designed to meet the needs and requirements of safe air supply and exhaust 3/2 valves and safe cylinder return 5/2 valves applications for machinery with pneumatic controls. Users can achieve category 4 safety-relevant control while realizing the maximum performance level “e” (PLe) according to ISO 13849-1.

VL/VT Series Lockout Valves

Lockout valves prevents unauthorized pressurization of an air system during service or maintenance. The valve employs a unique, one-piece center spool design that accommodates a user-supplied padlock in the closed position. When locked in the closed position, the pneumatic system controlled by the valve cannot be operated until the padlock is removed.

Visit Emerson.com/AVENTICS to learn more about our safety solutions.

Limit switches

GO Switch provides reliable, durable proximity sensing in the most demanding conditions. Using unique technology, GO Switch outperforms all other types of sensors in applications that require high reliability and durability. The most versatile sensing solution. It detects like a proximity switch and functions like a limit switch, providing higher reliability when conventional switches fail.

- GO switches consume no power to operate and are insusceptible to electrical noise, weld fields and radio frequency interference (RFI).
- One-of-a-kind technology that offers high current ratings, AC/DC and NO/NC wiring flexibility and non-contact detection of ferrous metal and magnetic targets.
- Durability in mission-critical applications in extremely hot, cold, wet, dirty, abusive, corrosive, and explosive environments.

Global certifications

Zone 0 (intrinsically safe)

Zone 1 (explosion proof)

Zone 2 (non-incendive)

Class I, Div 1&2

Class II, Div 1&2

Class III

Extended Sensing

Models 11, 21, 31, and 81 were the world's original GO™ Switches. Their simple design, rugged housings, long sensing ranges, and global approvals make these switches the ideal choice wherever reliable proximity sensing is needed. Some features common to all these models include a standard operating temperature range of -58°F to 221°F (-50°C to 105°C) and gold-plated SPDT dry contacts.

Additional options include:

- Extend sensing distance up to 98mm using target magnets
- Double Pole Double Throw (DPDT)
- Latching Contacts
- Current rating up to 10A/ 120VAC
- Wide variety wiring options such as lead wires, cables, quick disconnects (Micro or Mini) and terminal block design.

Precision Sensing

With all stainless steel construction, flexible AC/DC, NO/NC, and SPDT/DPDT contact configurations, superior corrosion resistance, and global certifications for all hazardous areas. Precision Sensing Series GO Switch outperforms inductive proximity switches in the toughest applications.

Additional options include:

- Extend sensing distance up to 13mm using target magnets
- Hermetic Seal
- Pressure Rating up to 10,000PSI (690 bars)
- Wide variety wiring options such as lead wires, cables, quick disconnects (Micro or Mini) and terminal block design

Specialty Sensing

Submersible Sensors

Submersible up to depths of 7,010m/ 23,000ft and offer trouble-free position sensing in critical applications.

High Temperature Sensors

HiTemp™ sensors are rated for continuous operation in temperatures up to 204°C/400°F.

Cylinder Sensing

Cylinder end-of-stroke sensors

Stroke-To-GO cylinder proximity sensors provide precise end-of-stroke position indication on pneumatic and hydraulic cylinders. Designed to exceed automotive industry standards, the housing is machined from stainless steel bar stock to handle pressures to 3,000 psi (206 bars) operating (tested to UL's 4X burst requirement) while withstanding the extreme external conditions and high temperatures.

Visit Emerson.com/TopWorx to learn more about our sensing capabilities.

Pressure regulators

Providing precision fluid control in the broadest range of pressures and in the most severe conditions.

With over 100 years of heritage, TESCOM regulators provide reliable, consistent pressure control customized to your application. Our regulators can control pressures from vacuum up to 60,000 psi, flow rates up to Cv 23, and line sizes up to two inches. They are ideal for use with a wide range of media including inert, neutral, corrosive and toxic gases and liquids as well as hydraulic fluids. Our technical application experts are on hand to develop custom configurations to meet the varying requirements in industries such as oil and gas, life science, industrial machinery & testing and laboratory research & semiconductor and alternative fuels.

Highly Customizable Solutions

SG1/SG3 Pressure Reducing Regulators

Series SG regulators are compact, lightweight high purity single-stage pressure reducing regulators for specialty and industrial gas flows up to 200 SCFM / 5600 SLPM. A sensitive, extra long-life metal diaphragm ensures gas purity and integrity. They are suitable for laboratory and Point-of-Use Gas Systems in medical, pharmaceutical, food and beverage, and other high purity applications. These regulators are also ideal for process analyzer gases, metal fabrication and specialty and industrial gas cylinders.

26-1700 Backpressure Regulator

The Series 26-1700 backpressure regulator controls pressures up to 15,000 psig / 1034 bar, is suitable for gas or liquid service, and is ideal for pump discharge pressure control, reactor pressure control and over pressurization relief.

26-2000 Pressure Reducing Regulator

The Series 26-2000 high pressure, low flow piston sensed pressure reducing regulator is available in dome, spring and air loaded versions. This regulator comes with segregated captured venting standard with inlet pressure ratings up to 20,000 psig. It is ideal for use in R & D labs, pressure filling, calibration testing, burst testers, component testing and high pressure hydraulic or pneumatic applications as well as alternative fuel filling stations .

54-2000 Hydraulic Regulator

The Series 54-2000 pressure reducing regulator is suitable for 10,000 psig / 690 bar inlet and outlet hydraulic applications. The segregated and captured vent allows for convenient downstream pressure reduction adjustments. The hardened stainless steel seat and stem provide excellent wear resistance in harsh applications, making them ideal for use in wellhead control panels, sub-sea valve actuation, hydraulic power units (HPU) and component testing.

50-4000 HPU Subsea Wellhead Regulator

Pressure reducing regulators, with their integrated bypass valve, reduce time to production and maintenance cost. This first-of-its-kind regulator controls control high pressure water glycol, decreases pressurization time and offers extended service life.
They are specifically designed for hydraulic power units (HPU) and wellhead control panels.

Pharmpure Series

These high purity, single-stage pressure reducing regulators offer a compact, USP Class VI and BPE compliant design suitable for biotech and pharmaceutical applications. These regulators offer gas flows up to 2000 SCFM / 56,634 SLPM. The GYLON® diaphragm ensures gas purity and integrity. They are ideal for use with sparge gases, clean steam for sanitization, transfer panels, and vessel headspace pressurization, with options available for specialty, corrosive, and pyrophoric gases. Aseptic flanges are also available.

Visit Emerson.com/TESCOM to learn more about our precision fluid control offering.

Chemical Injection Solution

Series 56 Chemical Injection Flow Control Valve

The Series 56 chemical injection flow control valve utilizes an integrated microprocessor based PID controller that brings precise algorithmic control to chemical injection systems.
This technology provides:

- Responsive control that allows the valve to adapt to an ever-changing system
- Accurate flow control that reduces operational costs
- Reduced downtime and maintenance associated with flow control valves

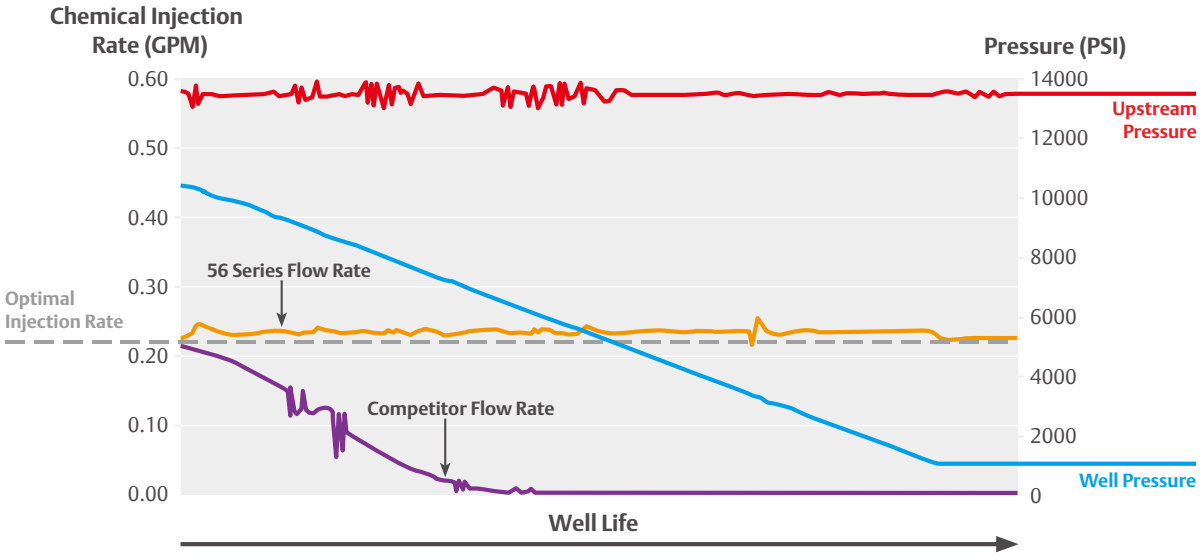
Key applications

- Offshore chemical injection
- Process flow control

Key specifications

- Flow rate range of .005 - 30.0 gpm / 113.56 l/m
- Inlet pressure up to 15,000 psig / 1034 bar
- Outlet pressure up to 15,000 psig / 1034 bar
- CSA, IECEx and ATEX Approvals
- Full stainless steel construction
- Kalrez® elastomers

Chemical Injection Flow Control Valve Versus the Competition



Visit Emerson.com/TESCOM to learn more about our precision fluid control offering.

Pressure Regulation Solutions for Analyzer Systems

Series 44-6800 Vaporizing Regulator

The Series 44-6800 Vaporizing Regulator offers superior heat transfer technology that ensures the delivery of single-phase vapor samples required for accurate analytical results. It features certified separability of the regulator body from the electronic enclosure for greater installation flexibility. The Series 44-6800 is ideal for gas processing, refining, and petrochemical sample conditioning systems for online gas chromatographs.

- Separable version maintains hazardous location certifications after installation
- Ideal for heated enclosures or smaller cabinets
- Monitor and troubleshoot remotely or while in the field
- TCO fuse shuts off power to the heater during a thermal event to ensure equipment safety
- Specialty coatings for corrosive environments and inert applications

Gas Cylinder Changeover Systems

TESCOM changeover systems are designed to ensure a continuous supply of carrier and calibration gases with no interruption due to supply depletion or change out. Solutions can connect to up to 16 gas cylinders. Complete systems can include CGA connections, hoses, check valves, purge valves, pressure switches, alarms, etc. Our customized systems are ideal for petrochemical analyzer sampling systems, gas delivery systems, laboratories and welding gases.

ACS012

NA4

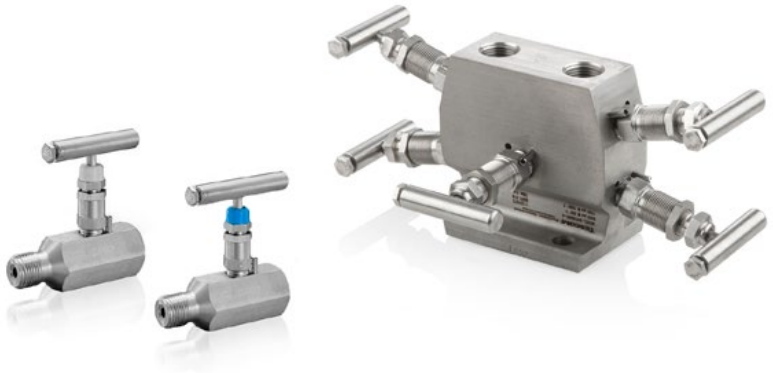
Visit Emerson.com/TESCOM to learn more about our precision fluid control offering.

Instrument valves

TESCOM Anderson Greenwood Instrumentation products are manufactured with precision and built to perform. With decades of innovative engineering expertise, Anderson Greenwood Instrumentation is one of the world's most respected brands for instrumentation products - manufacturing the broadest range of instrument valve products available. Our products have easy, low-cost installation and superior safety features that provide instrument installations and personnel with maximum protection.

TESCOM Anderson Greenwood Instrumentation Solutions

Emerson Offers a comprehensive range of isolation valves (including root and gauge models), instrument manifolds (for pressure, level and flow measurement), and purpose-designed Instrument Enclosure Systems. In addition to our comprehensive family of standard valves and manifolds, our expert consultants can also develop customized products for special applications.



Instrument Valves

Bubble tight isolation for instruments with both metal or soft seat. Multiport and block & bleed style suitable for gauge isolation, calibration and venting.

H7/H71 Hand Valve

H5 Mini Valve

M5/M51 Gauge Valve

M25/M251 Gauge Valve

Differential Pressure Manifolds

Our 2-Valve, 3-Valve and 5-Valve manifolds are suitable for direct or remote mounting to transmitters. Compact design with isolation, equalizer, vent and calibrating functions.

A30 2-Valve

M4A/M4T 3-Valve

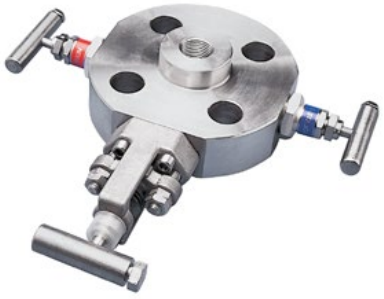
M6A 5-Valve

A22N

Primary Isolation Valves

Primary isolation and double block & bleed valves meet both instrument and process piping engineer's specification. Integrating ball valve, OS&Y bonnet and threaded bonnet valves, Keyblok and Monoflange Manifolds offer significant saving on space, weight, installation and cost.
Primary isolation valves are also available with ISO15848 compliant fugitive emissions options to reduce or eliminate unwanted process emissions to the environment.

Keyblok Manifolds



Monoflange Manifolds

Visit Emerson.com/TESCOM to learn more about our precision fluid control offering.

Valve Actuation Control

Process solutions for Top Quartile performance in the areas of safety, reliability, production and energy management

The most important aspects in our process industry is the increasing need for improved **Safety, Reliability and Efficiency**. Emerson supports our customers to achieved the highest degree of safety and reliable operations.

Pertinent opportunities are captured by introducing **Operational Certainty**, our approach to partnering with customers to achieve Top Quartile operational performance. Emerson applies cross-functional consulting expertise and consistent methodologies to identify the highest impact opportunities guided by industry benchmarks and company operational performance. Then we provide a prioritized business case for investments in enabling Smart Technologies like our digital ecosystem.

Project Certainty is our transformational approach to enabling top quartile performance in capital projects by digitally transforming your project through modern project management strategies, innovative engineering practices and digital technologies. Our project execution approach delivers solutions that eliminate costs, reduces complexity, and accommodates change to improve capital efficiency and deliver more reliable project schedules.

Through **Innovative Products** & programmatic fashion, with our customers, we ensure results are sustainable and benefits are captured that are incremental to any existing **Operational Excellence** initiatives.

Solenoid Pilot Valves

ASCO Series 327 Solenoid Valve

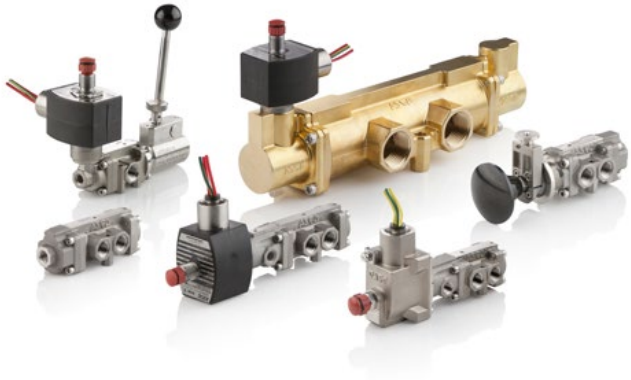
The ASCO Series 327 is a line of high-flow piloting valves requiring zero minimum operating pressure. Its balanced poppet construction permits high flows at minimum power levels, making it ideal for power plants, refineries, and chemical processing facilities. The valve's PTFE rider rings and graphite-filled seals reduce friction and eliminate sticking to provide exceptional service life. Proven in use in many hazardous applications & environments with wide range of explosion proof & SIL certifications.

ASCO Series 551/553 Solenoid Spool Valve

The ASCO Series 551 is a line of compact solenoid spool valves that are ideal for controlling air or inert gas in challenging environments. The valves' unique design combines hard T-seals and flexible O-rings that provide bubble-tight shutoff, dirt resistance, and multi-million cycle reliability. The Series 551 comes in anodized aluminum, brass, and stainless steel bodies with ¼-inch NPT and BSP connections. It is suitable for the harsh conditions found in chemicals, refining, food & beverage applications and life science processing.

ASCO Series 362 and 562 Solenoid Spool valves

The ASCO Series 362/ 562 spool valves is designed for control valve automation in the upstream, midstream, and downstream oil and gas markets. The valves incorporate proven ASCO solenoid technology for unparellel reliability in mission-critical applications. The Series 362 is a three-way valve made for single-acting process valve applications. It is available in 1/4-inch through 1-inch, brass and 316L stainless steel constructions for corrosion resistance in harsh environments.



Visit Emerson.com/ASCO to learn more about our process valve capabilities.

Manual Reset Valves

ASCO Series 307 Manual Reset

The ASCO Series 307 is a line of solenoid pilot valves designed for heavy-duty industrial applications in hostile environments. Their high flow capacity, rugged stainless steel or brass constructions, and long service life are especially well suited for use in drilling rigs and refineries. The valves are ATEX 94/9/EC Directive approved.

ASCO Series 327 Manual Reset

The ASCO Series 327 Manual Reset is designed for high-flow piloting with no minimum operating pressure required. It has a balanced poppet construction for high flow at minimum power levels and PTFE rider rings and graphite-filled seals to reduce friction and eliminate sticking to provide exceptional service life. Available in 316 Stainless Steel constructions for highly corrosive atmospheres

NAMUR Valves

ASCO Series 327 NAMUR Mount

NAMUR direct mount construction with a balanced poppet construction provides high flow with low power consumption. PTFE rider rings and graphite-filled PTFE seals reduce friction and eliminate sticking for long life. No minimum pressure required.

ASCO Series 551/553 NAMUR Mount

The ASCO Series 551/553 is a line of compact solenoid spool convertible from 3/2 to 5/2. Features a NAMUR direct mount construction with standard manual operator. DIN, Watertight and Explosionproof solenoids available in single and dual solenoid constructions. Mountable in any position. Vents air from spring side of actuator to prevent corrosion of actuator

Visit Emerson.com/ASCO to learn more about our process valve capabilities.

Explosionproof Operators

JE/WSJE

Dual chamber explosion-proof operator JE/ WSJE for use in potentially explosive atmospheres according to worldwide regulations:

EU Type Examination Certificate No.
- CML 19ATEX1124X

IECEx Certificate of Conformity No.
- IECEx CML 19.0041X

NF/WSNF

The NF/WSNF operator is for use in potentially explosive atmospheres according to ATEX-Directive 2014/34/EU

Safey Code
- II 2G/D Ex db IIC Gb T6..T4
- Ex tb IIIC Db IP66/IP6

WSCR

Full 316 stainless steel construction for potentially explosive atmospheres, suitable for high corrosive environments.

Safey Code
- II 2D Ex tb IIIC Db IP66/67 85°C to 200°C (dust)
- II 2G Ex db IIC Gb T6..T3 (gas)

VCEF/VCEV

Explosionproof Junction Box Enclosure intended for use in potentially explosive atmospheres, according to Directive Chinese Standard - GB

Safey Code
- Ex d mb II CT3..T6 Gb, Ex mbD 21 tD A21 IP66/67 T85°C..T200°C

WBLP

Explosionproof operator for use in potentially explosive atmospheres according to ATEX-Directive 2014/34/EU

Safey Code
- II 2G Ex e mb IIC T4 Gb
- II 2D Ex tb IIIC T 135°C Db IP67

JPIS/JSIS

For installation in intrinsically safe and non-incendive field wiring areas, with properly approved and sized current and voltage limiting barriers.

Safey Code
- II 1 G Ex ia IIC T6 Ga (ATEX)
- Ex ia IIC T6 Ga (IECEx)
- NEMA Types 4, 4X, 6, 6P

PV

Explosionproof molded operator for use in potentially explosive atmospheres according to ATEX-Directive 2014/34/EU.

Safey Code
- II 2G Ex mb IIC T5..T3 Gb,
  II 2D Ex mb IIIC 100°C..200°C Db IP67

EF/EV

A one-piece moulded epoxy coated solenoid for use in explosive atmospheres conforming to ICS-6 ANSI / NEMA standard and UL standards 429, 508 and 1002.

Safey Code
- NEMA, Types 7 and 9

Visit Emerson.com/ASCO to learn more about our explosion-proof operators.

Modular Systems

ASCO Advanced Redundant Control System (ARCS)

The ASCO ARCS is a redundant solenoid valve solution designed for emergency shutdown valve applications. It is available in 1oo2, 2oo2 and 2oo3 configuration to meets for safety and/or reliability requirements. The ARCS is a direct acting platform with advanced diagnostic cabability and online maintenance features.

- Supplied as ONE complete module with factory pre-test & as a single part number
- Eliminate pipework & fittings between the solenoid valves
- Facilitate preventive maintenance and online detection of faults
- Allows easy online maintenance
- ASCO patented individual isolation feature

1oo2 & 2oo2

2oo3

ASCO NAMUR Actuator Module (NAM) NAM531

The ASCO Actuator Module (NAM531) is an integrated solution with filter regulator, diverter module and NAMUR solenoid applicable for NAMUR type rotary actuated on/off valves. This patent-pending design is highly suitable for quarter-turn actuated valve applications in process segments.

Visit Emerson.com/ASCO to learn more about our Redundant Solenoid Solutions

Modular Systems

ASCO Actuation Control Module (ACM)

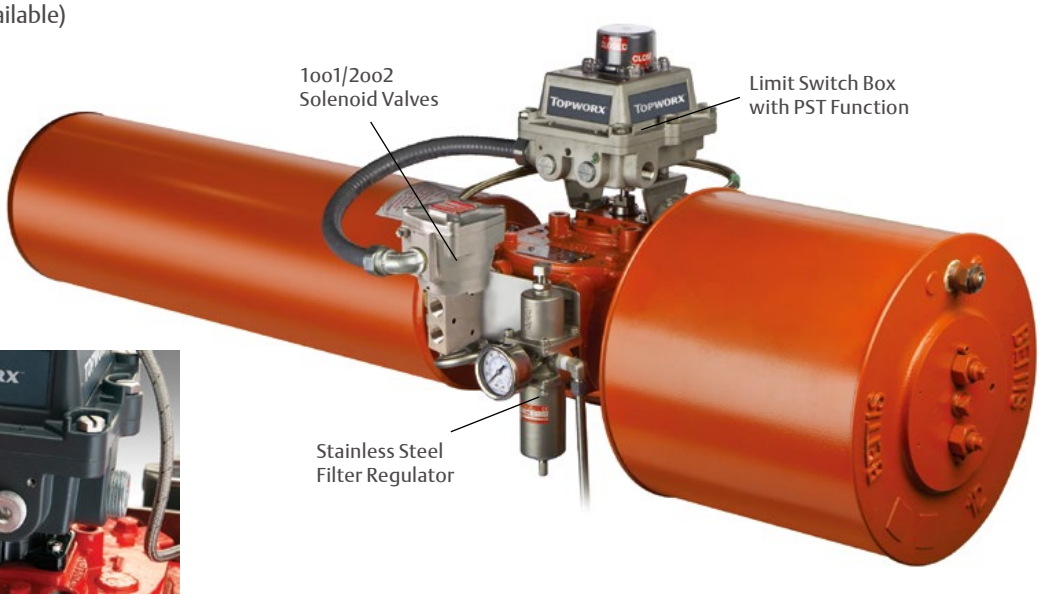
The ASCO Actuation Control Module (ACM) is a compact valve actuator module and it comprises unit of filter regulator and solenoid valve along with integrated non-return valve and pressure relief valve. This module allows to interface air operated valve, flow control valve and quick exhaust valve options for Outlet or Exhaust through tubing & fittings.

Partial Stroke Test System

TopWorx D-ESD PST Solutions (SIL-3 Rated)

The TopWorx D-ESD valve controllers (SIL-3 rated) provide a solution with Emerson's unique features which functionally enable partial stroke testing of emergency shutdown or on/off valves, without disrupting the operational process

- Simple pass/fail diagnostics
- ESD function overrides the partial strok test in the event of an emergency
- Anti-slam closed feature prevents a valve from accidentally closing duting a test
- Open and closed position feedback to the control system
- Available in rugged aluminum or stainless steel platforms, certified for hazardous areas
- Local, lockable partial stroke test button is integral to the device and fully protected (Remote PST option available)



Lockable Partial Stroke Test Button

Visit Emerson.com/ASCO to learn more about our Customized Solutions

World-Class Discrete Valve Controllers for Position Monitoring and Control of Automated On/Off Valves

TopWorx discrete valve controllers enable automated on/off valves to communicate via various communication protocols. They can be installed to all rotary and linear valves & actuators, operate in the most demanding environmental conditions, and carry a variety of hazardous area certifications. The powerful and easy to use switchbox solution incorporates intelligent features to help you lower operating costs and increase plant availability.

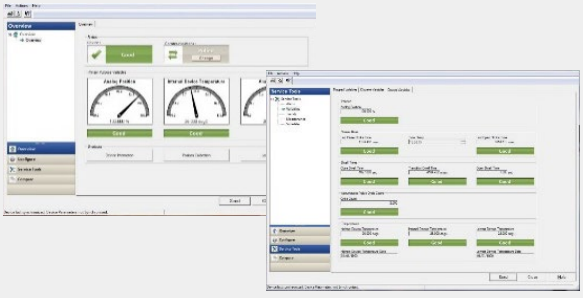
Bus Networks

Improve plant reliability and gain critical operational data with built-in Non-intrusive Predictive Diagnostic, monitors & alarms. Available in HART & Foundation Fieldbus. Simple, reliable and easy to use.

- Optimizes Preventive Maintenance Strategy
- Gains critical insights with non-intrusive built-in Cycle Counters and Timers
- Compactible with most control systems
- Online monitoring & alarms

HART COMMUNICATION PROTOCOL

- On-board diagnostics with alarms and alerts for online monitoring
- Supports NE-107 & NE-43
- Polarity and over-voltage protection.
- Local User Interface via Graphic LCD



FOUNDATION

- On-board diagnostics with alarms and alerts for online monitoring
- (2) DI, (1) DO, (1) AI, (1) PID with ability to add in 10 new function blocks.
- Position feedback via DO readback reduces number of function blocks

Device Variable Lable	Range	Units
Analog	0 to 100	%
Limit Switch 1	0 to 1	-
Limit Switch 2	0 to 1	-
Auxiliary Limit Switch	0 to 1	-
Internal Device Temperature	-55 to 130	˚C, ˚F
Last Close Stroke Time	0 to 4294967295	mSec
Last Open Stroke Time	0 to 4294967295	mSec
Open Dwell Time	0 to 4294967295	Sec
Open Dwell Time	0 to 4294967295	Sec
Cycle Count	0 to 9999999	-
Valve State	Open, Closed, Opening Closing, Stopped	-
Highest Device Temperature	-55 to 130	˚C, ˚F
Lowest Device Temperature	-55 to 130	˚C, ˚F
Transition Dwell Time	0 to 4294967295	mSec

Connectivity to other Fieldbus Networks

DeviceNet

- 3 Discrete Inputs, 2 Discrete Outputs, 1 Analog Input
- Rockwell, Emerson DeltaV approved
- On-board diagnostics and early warning LEDs

ASi POWER RANGE

- ASi 2.1 with up to 4 Discrete Inputs and 3 Discrete Outputs
- Early warning LEDs

PROFI BUS

- Profibus DP V0
- 4 Discrete Inputs, 2 Discrete Outputs
- Early warning LEDs

Visit Emerson.com/TopWorx to learn more about our sensing capabilities.

DX-Series

Customizable Solution for your every need

- Built in Diagnostic Capabilities in HART & Foundation Fieldbus module
- Sensors available: GO Switch, Proximity, P+F, Mechanical, 4-20mA Transmitter
- ¼" DD or NAMUR Shaft
- Epoxy coated corrosion protection enclosure
- Available in Aluminum, Stainless Steel & Composite
- Optional Aluminum or Stainless Steel integrated pilot valve (1.06 Cv, 3.7 Cv)
- Class I, Div 1 & 2; Class II Div 1 & 2; Ex ia IIC T6/T4; d IIB+H2 or IIC T6/T5/T4/T3 Tamb -60ºC up to +175ºC; Ex tb IIIC Tamb -50ºC up to +92ºC II2GD, Type 4X, IP66/67

Note: Product certification markings will vary according to protection method and internal components specified.

TopWorx SIL-3 ESD Valve Controllers provide a complete Partial Stroke Test Solution with unique features and functionality that enable partial stroke testing of emergency shutdown valves without disrupting or shutting down the process.

D-ESD

- Partial Stroke Testing for Emergency Shutdown Valves
- Suitable for use in SIL-3 applications
- Stainless Steel or Aluminum, Flameproof/ Explosion Proof/Non-Incendive
- Class I Div 1 & 2
  Class II Div 1 & 2
  Ex d IIB+H2 T6
  Ex tb IIIC T135°C
  Tamb -50°C to + 60°C
  II2GD, IP66/67, Type 4X

Reliable Position Sensing with GO Switch

Hermetically sealed dry contact, voltage free proximity sensors used in D-series Switchbox.

- Simple device –inherently intrinsically safe with barrier
- 4A/120VAC; 3mA -3A/24VDC
- Hermetically sealed contacts
- SPDT, DPDT
- No leakage current, non voltage or polarity sensitivity
- A single sensor for both high & low current applications
- Can install up to four GO Switch sensors in a switchbox

Visit Emerson.com/TopWorx to learn more about our sensing capabilities.

TX-Series

Compact, durable and engineered for your special applications such as sub-sea valves; elevated temperatures, as well as submerged applications for Marine/offshore. Proven Field assurance, reliability and accurate process feedback.

Compact & Fit-for-Purpose

- Sensors available: GO Switch, Proximity, P+F, Mechanical
- AS-Interface & Profibus option
- NAMUR Shaft
- Direct mount to ISO/NAMUR actuator
- Epoxy coated corrosion protection enclosure
- Available in Aluminum, Stainless Steel
- Optional Aluminum or Stainless Steel integrated Pilot valve (1.0 Cv)
- Class I, Div 1 & 2; Class II Div 1 & 2; Ex ia IIC T6/T4;/T3; Ex d IIB or IIC T6/T4 Tamb -65ºC up to +100ºC; Ex tb IIIC Tamb -50ºC up to +100ºC II2GD, Type 4X, IP66/67

TXP

TXS

TV- Series Switch Boxes

Light, Rugged & Compact

- Up to (4) sensors inside: GO Switch, Mechanical, Inductive, Proximity, NAMUR
- NAMUR Shaft
- Direct ISO/NAMUR mount
- Available in Aluminum, Stainless Steel enclosure or Aluminum base with clear polycarbonate lid
- Optional Aluminum or Stainless Steel integrated spool valve option
- High intensity LED option available
- Class I & II, Div. 2, Ex ia IIC T6/T4/T3 -65˚C up to +100˚C; Ex nA nC T4/T3 Tamb -40˚C up to +95˚C; Ex tC IIIC -50˚C up to +85˚C; II2GD, IP66/67, Type 4X

TVF

TVH

TVL

Reliable Position Sensing with GO Switch

Hermetically sealed dry contact, voltage free proximity sensors used in TX/TV-series Switchbox.

- Simple device –inherently intrinsically safe with barrier
- Fully encapsulated switch cluster
- 1A/24VDC, 3mA-3A/24VDC & 4A/120VAC
- Can install up to 2 clusters (4 SPDT switches) in a switchbox

Visit Emerson.com/TopWorx to learn more about our sensing capabilities.

K-Series Switch Boxes

Compact, durable and engineered for your special applications such as sub-sea valves; elevated temperatures, as well as submerged applications for Marine/offshore. Proven Field assurance, reliability and accurate process feedback.

Engineered for submerged applications

- Available in Aluminum or 316 Stainless Steel
- RoHS 2 compliant
- Flat-top options
- Enhanced water ingress protection for offshore/marine applications
- Anodized aluminum enclosure for enhanced corrosion protection
- Class I&II Div 1 & 2, Class I Zone 1 Ex a/Ex d IIC T6/T4; Class II Zone 21 Ex a Ex tb/tD IIIC; Ex ia IIC T6/T4; Ex d IIC T6/T4, Ex tb IIIC -50ºC up to +100ºC; Type 4X, IP66/67/68

Note: Product certification markings will vary according to protection method and internal components specified.

Sub-Sea Switch Box

Offering a wide range of products for your Subsea or submersible applications. Proven in use and designed to give valve indication under 2,500 meters of sea water.

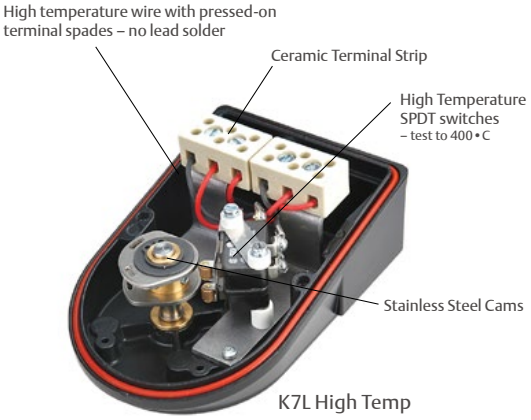
- Enclosures are available in a range of materials including carbon steel, 316L stainless steel, 254SMO stainless steel (20%Cr–18%Ni–6%Mo), Duplex 2205 and Super Duplex
- Available with a wide variety of switches in combination with a 4-20ma transmitters and HART

Note: Product certification markings will vary according to protection method and internal components specified.

Elevated & High temperature fire protection

- Tested by 3rd Party to operate at multiple high temperatures with a varied exposure time for Smoke Dampers or On/Off Valves.
- Compact and simple to install
- High temperature SPDT switches tested to 400ºC
- Ceramic Terminal Strip

Operating Temperature	Exposure Time	Independently Tested
250˚C	3 hours	Yes
300˚C	3 hours	Yes
350˚C	3 hours	Yes
400˚C	3 hours	Yes



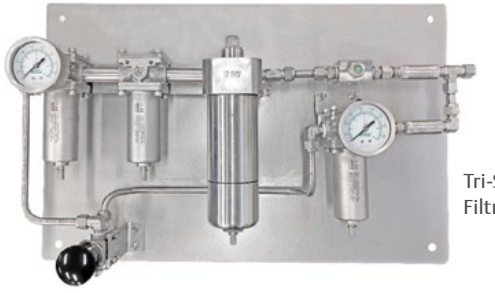
K7L High Temp

Visit Emerson.com/TopWorx to learn more about our sensing capabilities.

Air Preparation

ASCO Series 342A Stainless Steel Filter/Regulator

The ASCO Series 342A stainless steel filter regulator/ filter/ regulator and filtration solutions are designed to meet the demands of harsh process environments. The series provides high flow rates with precise pressure regulation to actuators and ensures clean, dry media to eliminate contamination to downstream devices.



Tri-Stage Filtration

ASCO Series 632 Alminum Filter Regulator

The ASCO Series 632 aluminium filter regulators are used in wide range of process and industrial automation industries, suitable for both indoor & outdoor applications.

Series 800 Stainless Steel Accessories

The ASCO Series 800 316L stainless steel accessories include quick-exhaust valves, check valves, flow control valves, and pressure relief valves. All ASCO accessory valves are compatible with our other products and solutions. They make standardi-sation easier and allow the customer to work with one supplier for a complete valve actuator control package.

Volume Boosters

Series 330A Volume Booster

The ASCO Series 330A Volume Boosters are flexible, robust, and highly reliable boosters designed to improve the pneumatic performance of both on/off and control valves. Available in sizes from 1/2 to 2 inches, the booster range offers a great deal of flexibility. Stainless steel and aluminum versions are available covering an operating temperature range of -60° C to +90° C. Solenoid valves can be coupled to the booster via a NAMUR pad mount. A unique mounting option enables the booster and actuator to be removed without disturbing the instrument piping.

Visit Emerson.com/ASCO to learn more about our air supply management.

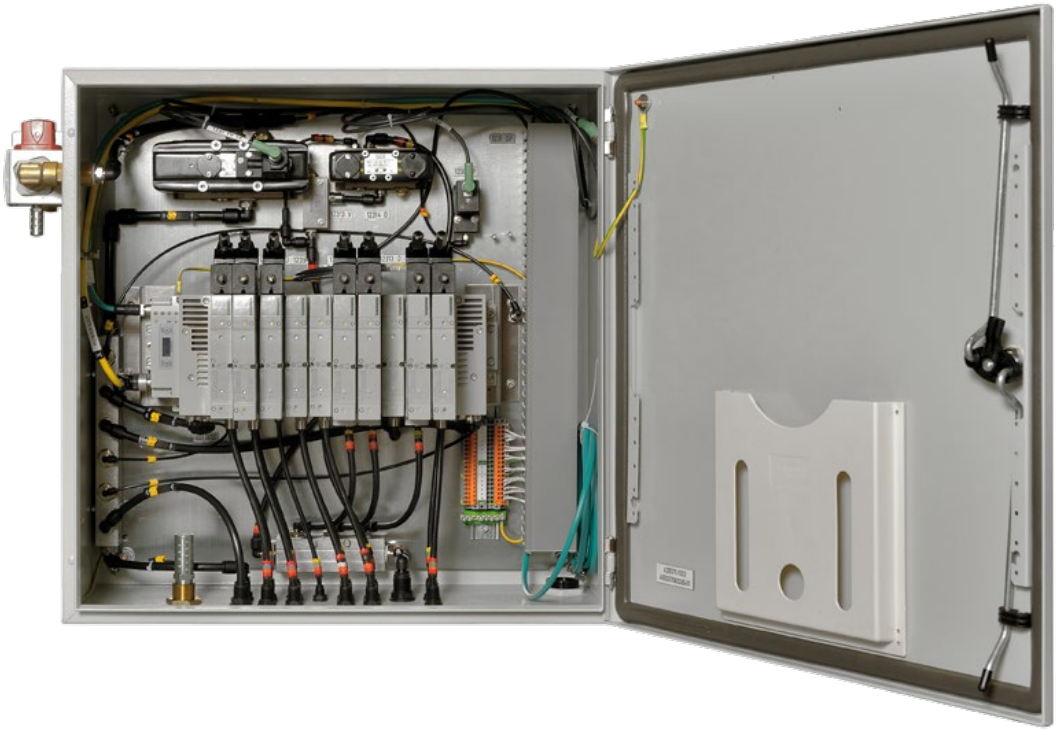
Panels and Customized Solutions

Integrated Enclosure Solutions

Emerson's integrated enclosure solutions greatly simplify your fluid automation set-up. Offering exceptional advantages for end users, original equipment manufacturers (OEMs) and engineering service providers. An optimized assembly of electrical and pneumatic components are specically designed to meet the needs of your application. Already engineered, assembled, tested and ready to install, these customized solutions maximize convenience, save costs and provide superior performance. Each solution incorporates best-in-class products, which can include directional control valves, fieldbus electronics, cylinders, proportional products, filters/ regulators/lubricators, fluid control valves, and accessories..

Complying to numerous international standards such as ATEX/IECEx, NEMA, TÜV, NEPSI, KGS, CE, UL and CSA; a suitable solution can be customised according to your application requirements.

Our control panel enclosures are available in EEx e, Stainless Steel 304, 316 and 316L materials with IP65 or IP66 ratings.



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