

EFFECTIVE CONTROL WITH AIR

AN OVERVIEW OF PNEUMATIC VALVES AND VALVE SYSTEMS

Pneumatics
It's that easy





Everything you need, inside and out

Integrated functions, an innovative and compact housing design, as well as comprehensive connection options – going above and beyond precision and reliability. Valves and valve systems from AVENTICS meet the demands of today's control technology like no other.

Capable and well thought-out – application-oriented valve technology from AVENTICS

The result of decades of work in application-oriented development for our key industries, single valves and valve systems from AVENTICS set the tone in today's pneumatics. Simply put, AVENTICS is unrivalled when it comes to the entire spectrum of valve technology instruments. And that doesn't only sound good – it's a solid argument for efficient pneumatic solutions.

Perfection is our standard

With a valve solution to match any application and work environment, our comprehensive range of perfected valve technology fulfills all the requirements placed on cutting-edge efficient pneumatic control technology. And as you've come to expect from our products, each component has the best quality and design.

- Functionality
- Modularity
- Quality and design

As well as meeting all environmental requirements, our products are extremely durable and offer a wide range of functions. This is demonstrated by a quick system layout and adaptation to specific tasks thanks to the modular design. Further quality features of our valves include low leakage and power consumption. And with short delivery times thanks to local production, our products get to where they need to be quickly, to do what they do best – work for you!

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A valve solution to match any application – coordinated perfectly

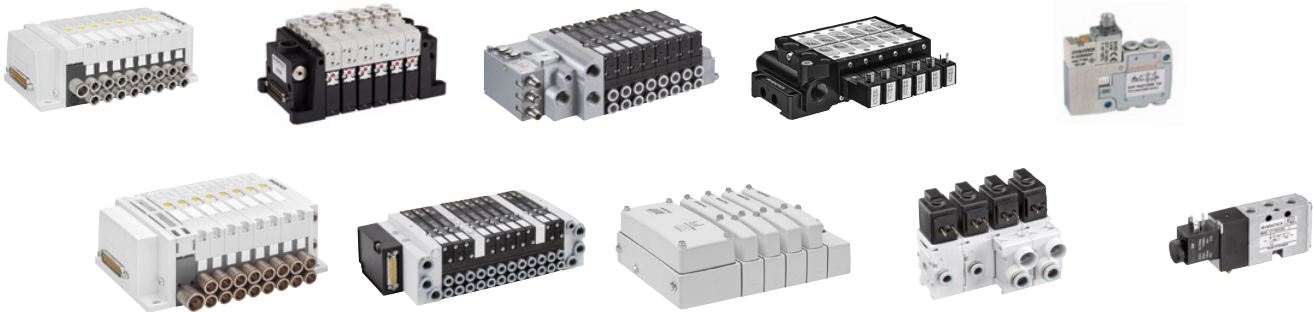
Get some insight, an overview, a preview

Use this brochure to help you select the products you need. It also provides information on key properties and application areas for the valves and valve systems. A summary of the program at the end of the brochure serves as an introduction to our detailed catalog.

- Valves and valve systems
- Valves and valve systems complying with ISO standards
- Electropneumatic pressure regulators

A comprehensive program with a straightforward platform strategy

Our range of products is just as diverse as our customers' tasks. The range covers everything from mechanically, pneumatically, or electrically operated single valves with nominal flows of 50 to 15,000 l/min., to highly complex, modular valve systems fitted with a complete range of functions and state-of-the-art bus technology. Let the application dictate the requirements – we will supply the right technology. Aside from technology based on conventional switching valves, we also provide optimal solutions featuring electro-pneumatic pressure regulator technology. Get acquainted with the complete range of our program on the following pages.

Product group	Valves and valve systems									
Series	AV03	AV05	ES05	HF03	HF02	CL03	TC08/15	490/579/589	LS04	CD04/07/12
										
Valve systems	✓	✓	✓	✓	✓	✓	✓	✓		
Single valves, electrically operated			✓			✓	✓	✓	✓	✓
Single valves, pneumatically operated							✓	✓		✓
Single valves, mechanically operated										✓

Comprehensive electrical connection options

The right contact for any situation

Electronic control and connection technology for valves and valve systems is developing at a rapid pace. Along with single wiring via standardized plug connections and easy valve system connection with multipole plugs, open and integrated fieldbus solutions now set the standard.

Having participated in each stage of electric connection technology development, we used this experience to identify the right options for each application in the program, such as valves with application-specific individual connections, as well as systems with integrated bus technology for all current fieldbus protocols.

- Single connection
- Multipole connection
- Fieldbus connection



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					Valves and valve systems based on ISO standards				Electropneumatic pressure regulators		
740/840	SV07/09	ST	AP	563/565/567	CD02	CD01	581	CERAM	ED	EV	AV-EP
✓					✓	✓	✓	✓	✓		✓
✓	✓	✓		✓	✓	✓	✓	✓	✓	✓	✓
✓		✓		✓	✓	✓	✓	✓			
		✓	✓								

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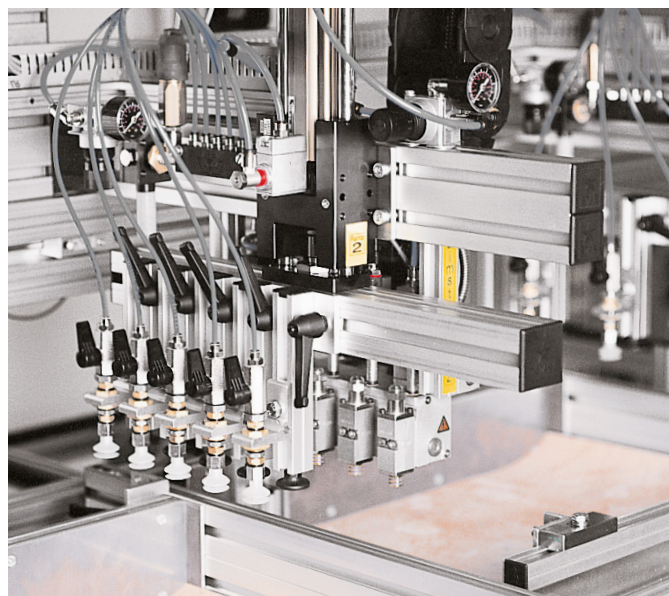
Compact and modular – valve systems offering all options

All valve systems offer the highest flexibility and functionality. Highly modular in construction, they easily integrate into tight spaces and the most demanding work environments without sacrificing functional reliability.

Solutions precisely tailored to the application

AVENTICS developed this flexible program with the motto “just the necessary components, but premium quality throughout” in mind. It includes valve solutions with base plates or stacked individual valves, covering flow rates from 50 to 1,500 l/min, also pneumatically operated if required.

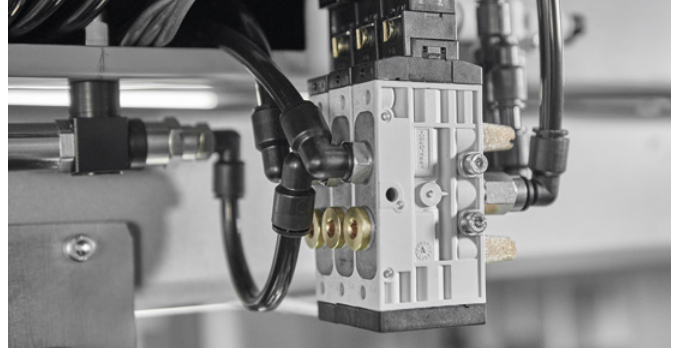
All systems are designed for simple installation and commissioning, which makes them particularly service-friendly in daily operation. In addition, they offer all modern options of electrical and pneumatic connection technology.



Expandable for future needs

Thanks to their modularity, you can expand valve solutions at any time and adapt them perfectly to changing machine environments. Exchanging valves on the base plate is simple and cost-effective – and doesn't involve machine modifications. Another advantage of these valve systems is their comprehensive range of accessories, allowing for highly customized designs and equipment. Typical application areas are: automation technology, process control in machine construction, and general material handling including vacuum technology, all in a wide variety of industries.

- Expandable at any time
- Large range of accessories
- Individual configuration

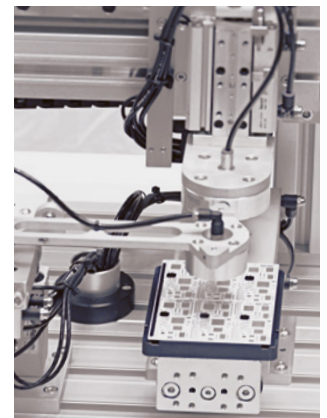


Optimized in terms of time

If you want to implement optimal, machine-specific configurations, valve concepts without base plates offer additional flexibility. The simultaneous use of targeted single valves and modular stacked valve solutions from the same series can make things considerably easier, safer, and more cost-effective. This multi-faceted series concept enables highly economic, compact solutions that are tailored to the specific machine environments. Their low installation volumes make them easy to integrate anywhere, and since they are so lightweight, you can install them directly onto moving machine parts.

- Specifically optimized configuration
- Compact machine integration
- Direct mounting on moving machine parts

These valve solutions are often used in automation, as well as process control and assembly technology, especially in small handling, machine tool construction, and the electronics industry.



Targeted solutions for individual machine environments

AV series – Advanced Valve

With its unique design, significantly reduced weight, and extremely compact size, as well as an increased function density, the AV makes sure that you stay a step ahead in production. AV is a complete automation solution that continuously adapts to application requirements. An optimum interaction of the valves with the AES fieldbus connection and the wide variety of components is a crucial benefit. Compared with existing products, the AV:

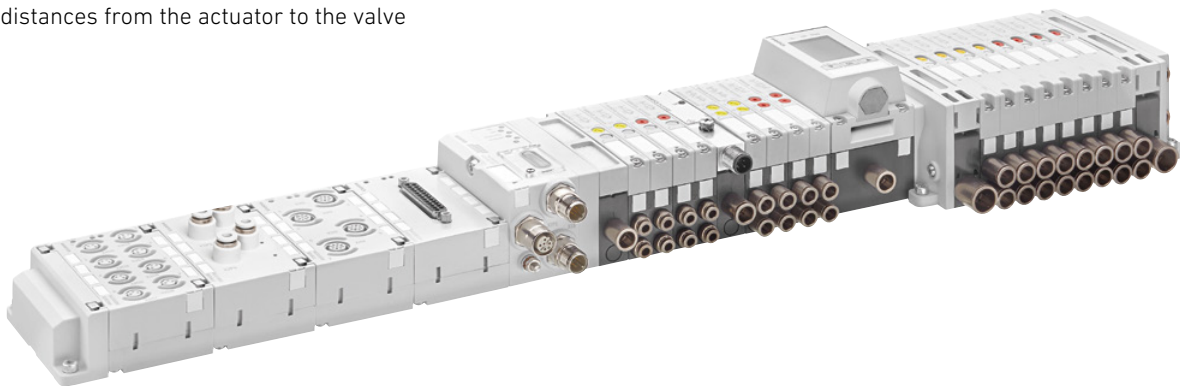
- Saves up to 45% space thanks to its diagonal design
- Is up to 40% lighter thanks to low-weight, high-performance polymers
- Consumes up to 20% less compressed air thanks to shorter distances from the actuator to the valve



AV03



AV05



Series	AV	HF	ES05	CL	490/579/589	TC
Functionality	++	+	○	+	○	+
Compactness	++	+	+	—	+	+
Weight	++	+	+	○	++	+
Modularity	++	++	++	+	○	+
Connectivity	++	++	++	+	—	○
IP protection	+	+	○	++	+	+
Easy to service	++	++	+	+	—	+
++ Highly recommended + Recommended ○ Suitable — Less suitable						

ES05 series

The Essential Valve System is ideal for standard pneumatic applications. Its simplicity and modularity make it especially well suited for applications that require quick changes or extensions. Due to its modular system consisting of a limited number of components and the one-tool concept, the ES05 is also easy to assemble in-house.



ES05

HF series – High Flow

The HF valve system offers flexible installation and quick, secure valve exchanges. HF means high flow and high functionality with extensive equipment options.



HF02-LG



HF03-LG

CL series – Clean Line

The Clean Line series features a hygienic design with a high protection class. The synthetic material is resistant to cleaning agents and aggressive chemicals, enabling applications in wet areas, even under harsh conditions. The valve system offers outstanding flexibility with the possibility to generate up to 32 different pressure stages in a single system.

CL03



490 series, 579 series, 589 series

The 490, 579 and 589 series present users with a cost-optimized 3/2 and 5/2-way valve solution featuring poppet valve technology. The valves are easy to stack and available with single connections or continuous supply. They are suited for flows from 50 to 850 l/min, as well as vacuum operation.



589

TC series

The TC series is available in two sizes with 800 and 1500 l/min flow rates. They are the perfect choice for applications calling for lightweight valves packing a lot of power in a small space. The TC product concept is also incredibly flexible when it comes to designing valve solutions. With valves operated either pneumatically or electrically, the valve system can be modularly expanded to up to 12 valves. Valves can be exchanged without dismantling the valve block.

TC08



TC15

Sturdy, strong, and always efficient – single valves for many applications

For applications indoors or outdoors, in extreme cold or heat, for delicate work or tasks demanding enormous power – our range of directional valves has the right valve solutions for every situation.

Ideal for decentralized applications

Our product portfolio offers a wide range of valves from the Clean Line valve for wash-down applications in the food industry, to the special valve for use in furnaces in the aluminum industry. The single valves with flow rate performances of minimum 50 to a gigantic 13,620 l/min have properties that make them suitable for a very wide range of applications.

Especially robust single valves

Thanks to a unique design and the use of proven materials, these single valves are equally resistant to mechanical influences, as well as extreme fluctuations in temperature or electric voltage. These properties make them ideal for applications in the paper, woodworking, metal processing, and heavy industries, as well as in material handling and printing systems.



Series	TC	CD	LS04	CL03-EV	490/579/589	740/840	SV07/09	ES05	ST	563/565/567	AP
Functionality	++	++	++	○	+	++	++	+	++	+	+
Compactness	++	○	++	–	+	○	○	+	○	○	+
Weight	++	+	+	○	++	+	+	++	+	○	+
Modularity	+	+	+	+	○	+	+	++	+	+	○
Easy installation	+	+	+	+	++	+	+	++	+	+	+
IP protection	+	+	+	++	+	+	+	+	+	+	+

++ Highly recommended + Recommended ○ Suitable – Less suitable

Electrically, pneumatically, or mechanically operated single valves



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



CD04



CD07



CD12

CD series

The CD series has a broad range of applications featuring three basic sizes and electrically, pneumatically, and mechanically operated versions. The valves are extremely robust and absolutely reliable, even in harsh working environments. They have been designed and approved for use in hazardous areas. What's more, they ensure the best functionality and a high degree of flexibility.

- Sturdy metal housing
- Wide temperature ranges
- High voltage tolerances

Directional valves for individual tasks

LS04 series

Thanks to their space-saving, lightweight design, LS04 valves are ideal for direct mounting to moving machine parts. They enable high dynamics and are optimal for applications in small handling.



LS04



CL03-EV series

CL03 series single valves offer all valve functions with the maximum protection class IP69K. It features a consistent hygienic design, works with NSF H1 lubricants, and is also suitable for applications with direct contact with food products.



CL03-EV

490 series, 579 series, 589 series

The 490, 579, and 589 series present users with a cost-optimized 3/2 and 5/2-way valve solution featuring poppet valve technology. They provide many integrated functions and can also be assembled into valve blocks.



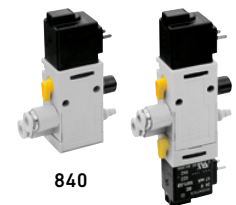
490/579/589

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.



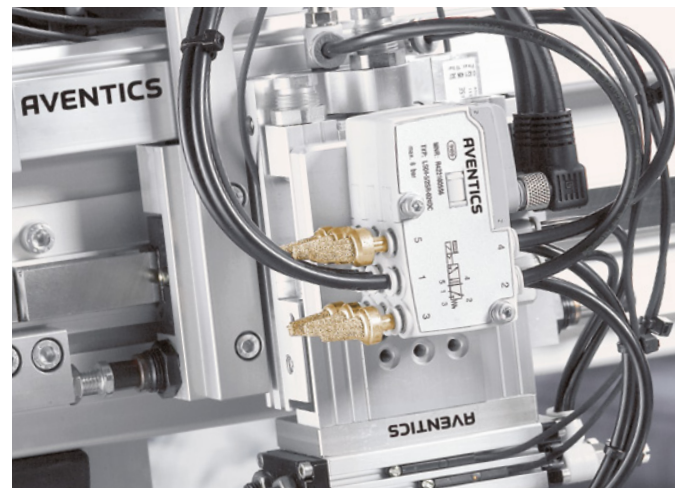
740



840



- ▲ The CL03-EV single valve for decentral applications in the food industry was developed based on the proven CL03 series valve system. CL03-EV offers the maximum protection class IP69K and is one of the few single valves in the market featuring a hygienic design.



SV07/SV09 series

The failsafe twin solenoid valves allow safe and controlled ventilation and exhaust in safety-relevant controls according to ISO 13849-1. Two 3/2 directional valves offer a host of functions, monitor their functions mutually, and are considered intrinsically safe certified components in high control categories.

**SV07****SV09****ES05 series**

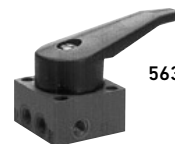
The ES05 single valve allows users to benefit from all the advantages of the simple, application-optimized "essential valve system" solution in individual applications. Due to the guided pilot exhaust it can also be used in clean room applications.

**ES05****ST series**

The ST series offers a wide range of 3/2 and 5/2 directional valves in a sturdy steel version for industrial applications in harsh working environments. They can be operated electrically, pneumatically, or mechanically and equipped with a broad spectrum of accessories.

**ST****563-018 series**

The manually operated 563-018 valves are available in two sizes. The robust design enables reliable opening and closing at all times – even when wearing work gloves.

**563-018****563 series, 565 series, 567 series**

In hot or cold settings, extreme temperature ranges, tough environmental conditions and under high working pressures up to 30 bar, the 563, 565, and 567 series valves are in their element. They are extremely reliable, extremely durable, and cover an impressive range of nominal flows from 1,350 to 13,620 l/min.

**563****565****567****AP****AP series**

The AP series provides a comprehensive range of mechanically operated single valves. With a wide variety of sizes, flow rates, and equipment details, the valves are suitable for universal use. Whether you require manual operation via levers or pedals, or automated operation via rollers, special buttons, or plungers – the AP series has the perfect solution for your automation task.

The best quality, globally available – daily at AVENTICS

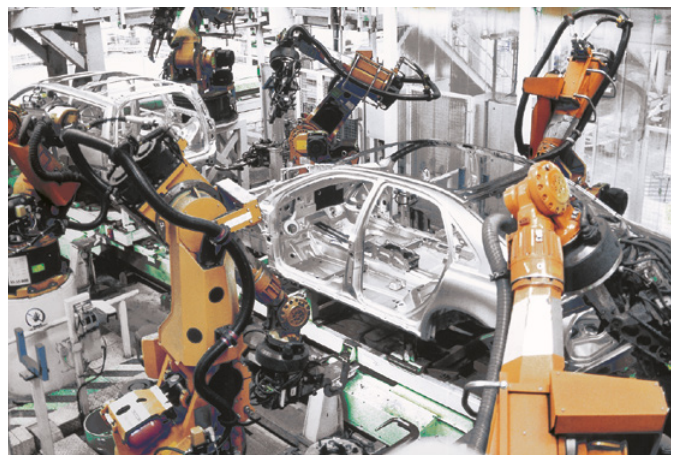
The same size, the same performance, the same connections. Standards are standards. AVENTICS excels at producing the very best within this framework. Our program – a complete assortment of perfected ISO valves with exemplary features and pivotal additional benefits – is several steps ahead of the pack.

With future standards in mind

Designed to withstand the test of time, our ISO valve systems can be upgraded in any direction. These systems help reduce the vast array of components by standardizing interfaces to reduce storage and procurement costs.



All are advantages that see our ISO valves used not only in the automotive industry, but in the packaging, woodworking, printing and paper industries, as well as heavy industries around the world. The future has already begun for standardized valves and incorporating fieldbus systems is the current technical standard. AVENTICS also offers solutions in this area.



Series	CD01-PA	CD01-PI	CD02-AL	581	CERAM
Functionality	++	++	+	++	+
Compactness	+	+	○	+	○
Weight	+	+	○	○	○
Modularity	+	○	○	+	○
Robustness	○	○	+	+	++
Connectivity	+	++	+	+	○

++ Highly recommended + Recommended ○ Suitable – Less suitable

Valves and valve systems complying with ISO standards

ISO valve technology from a single source

The right valve for every standard. As the leading supplier in this field, we offer valve series with perfect options to combine and expand. Series are available in accordance with ISO 15407 and ISO 5599.

CD01-PA, CD02-AL series

For ISO standard 15407-1, the range includes single valves and valve systems in the sizes 18 mm (CD02 series) and 26 mm (CD01 series). The CD01 can be electrically and pneumatically controlled and also offers comprehensive functions in terms of electrics. Versions are available in aluminum (AL) and polyamide (PA). The CD02-AL version features very short switching times, low control pressures, and low-friction seal elements.

CD01-PI

The plug-in valve according to ISO 15407-2 combines the advantages of standardization and modern control technology. ISO valves can be easily integrated into the machine concept with reduced wiring efforts using multipole connections or AES bus couplers and I/O modules.

581 series

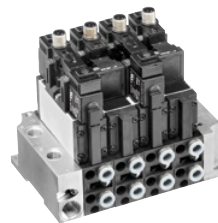
The 581 series is available in all sizes 1 – 4 of the ISO standard 5599-1 and offers the complete range of valve functions in a compact design. A comprehensive range of accessories, integrated throttle valves, the option of using various pilot valves and other configurable equipments details make these valves and valve systems unparalleled for applications according to ISO 5599-1.

- Best functionality with all options
- Application-specific equipment
- Universal application for all sizes

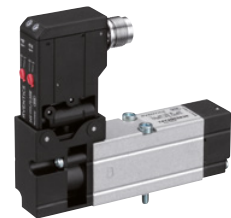
CERAM series

CERAM series valves based on ISO 5599-1 are equipped for exceptionally harsh operating conditions. The valve plates are resistant to dust, chippings, oils, and other sources of contamination.

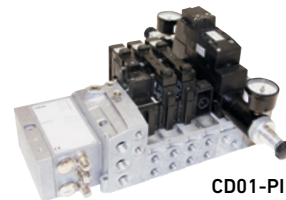
ISO standard 15407



CD01-PA

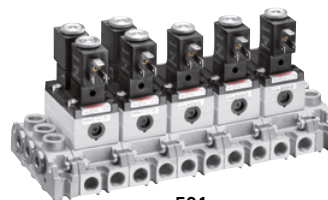


CD02-AL



CD01-PI

ISO standard 5599



581



581



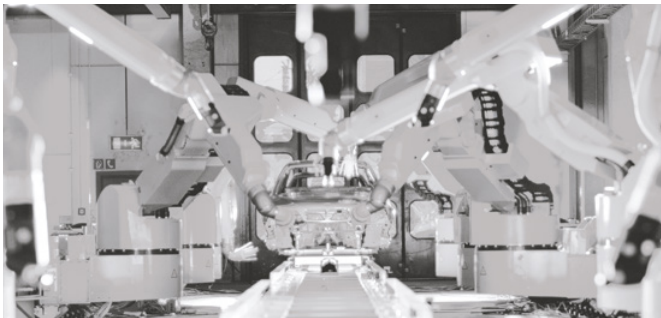
CERAM

Sensitive and highly dynamic – electropneumatic pressure regulation

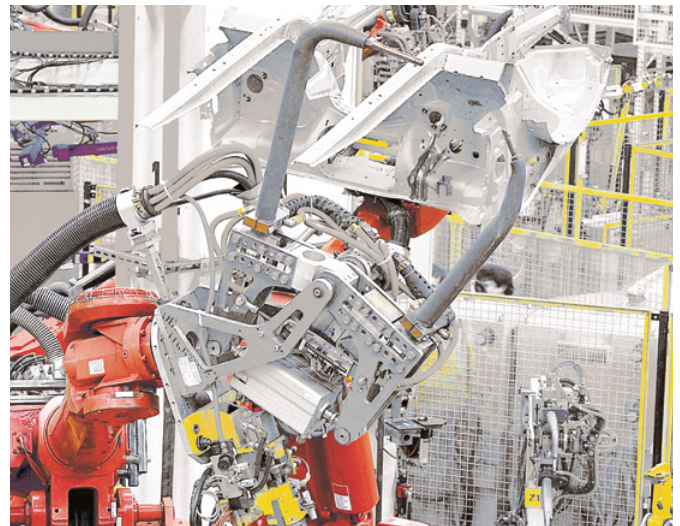
Speed and precision are crucial to controlling dynamic processes reliably. State-of-the-art control valve technology from AVENTICS meets these requirements like no other. No matter if it is pressure, quantity, speed, or weight – everything is precisely controlled.

Electropneumatic pressure regulator technology for every industry

Sophisticated systems with E/P valves frequently replace other pneumatic solutions or simply take over due to their clear advantages over non-pneumatic control technology. Classical applications include precise positioning of parts and components, variable control of welding tips, weight-independent balancer technology in assembly, and exact controlling and metering in cutting-edge painting systems.



Making the best use of any E/P-type valve depends on the kind of application and the actual tasks involved. AVENTICS is the technological leader in every aspect of electropneumatic pressure control and offers a rounded-out program of products for all nominal widths and applications.



Series	ED02	ED05	ED 07/12	EV03/AV-EP	EV07
Dynamics	++	+	++	+	○
Accuracy	+	+	++	+	++
Robustness	++	++	++	+	+
Flexibility	+	○	+	++	–
Connectivity	+	+	+	++	○

++ Highly recommended + Recommended ○ Suitable – Less suitable

The entire range from AVENTICS

Different models for different tasks

As electropneumatic pressure regulator technology develops, three different control principles have emerged.

- Pilot control
- Direct control
- Highly dynamic

ED02 – the smallest

The extremely compact yet powerful ED02 offers perfect control solutions in a variety of applications. It is reliable, dynamic, and cost-effective – and easy to stack.

ED05 – the all-rounder

The principle of direct control with a proportional solenoid enables highly precise control while remaining extremely dynamic, coupled with large flow rates. This also minimizes inertia and hysteresis in mechanical transfer elements.

ED07/ED12 – highly dynamic

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

EV03/EV07 – pilot-controlled

Perfect for static requirements, the EV03 and EV07 series work according to the indirect control principle with pilot valves. A key feature of the series is their extremely low energy consumption.

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 an analog signal or fieldbus.



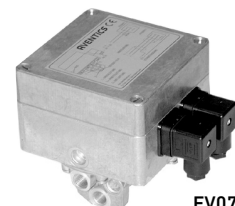
ED02



ED05



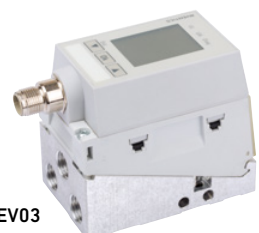
ED07/ED12



EV07



AV-EP



EV03

Perfect connections on every level – structured bus technology

The integrated fieldbus systems offer the right solution for every application and control environment. And thanks to our refined concept that works with all current fieldbus protocols, you can be sure of extremely flexible and open planning.

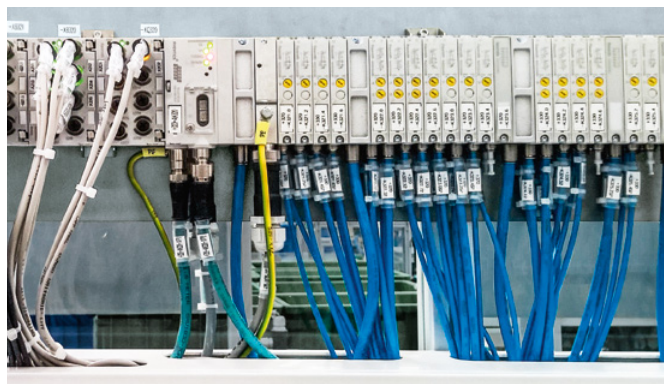
It all depends on the application

The more control complexity increases, the more profitable it is to use fieldbus systems. Each application calls for a tailored solution which promises maximum benefit. Our advanced fieldbus systems minimize wiring efforts, reduce possible sources of errors thanks to efficient diagnostic technology, and ensure quick and safe data transfers.

AES is the highlight of our bus technology and the logical continuation of the AV family concept.

AVENTICS Advanced Electronic System (AES) ensures smooth serial communication between the control and the valve systems and offers quick assembly times, a wide spectrum of variants, as well as increased modularity.

As a fieldbus connection, it ensures perfect communication between actuators and the machine peripherals. In combination with the compact AV systems, AES components can be placed very close to pneumatic drives. By contrast, a wide range of communication options are available: each AES fieldbus coupler can control up to ten I/O modules in addition to 64 valves with up to 128 solenoids. This is an impressive figure considering the size of the system. AES is also available as a stand-alone version and can be used to control other valve systems with adaptor plates.



◀ In addition to the standard fieldbus protocols via AES, AV is also available with an integrated I/O-Link.

 **IO-Link**



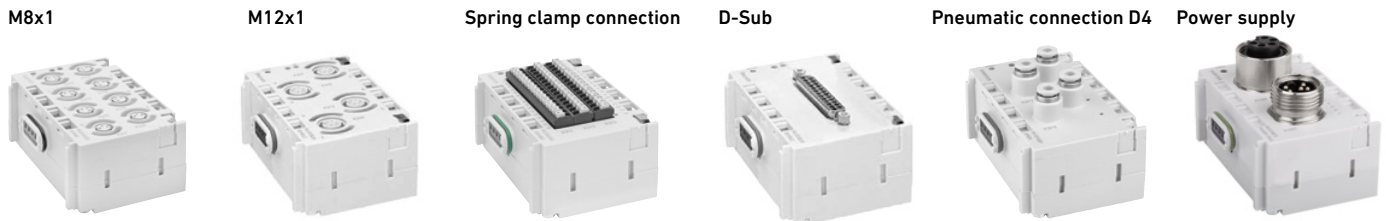
AES highlights

I/O data width	512-bit/512-bit
Number of I/O modules	Max. 10
Number of valves/coils	Max. 64 valves/128 coils
Internal cycle time	< 1 ms

AES facts

Protection class	Max. IP65
I/O functionality	Analog/digital
I/O connection options	M8, M12, D-Sub, spring clamp
Matching valve systems	AV03, AV05, ES05, HF03-LG, HF04, HF02-LG, CD01-PI, CD10/20

AES I/O modules - connection variants



Module variants	M8x1	M12x1	Spring clamp connection	D-Sub*	D4	Power supply
Digital input modules	•	•	•			
Digital output modules	•	•	•	•		
Digital input and output modules	•	•				
Analog input modules		•				
Analog output modules		•				
Analog combination module/control module		•				•
Power module		•				•
Pressure measurement module					•	

* Optimized for connection of other valve systems via a D-SUB connection

Precisely tailored to your needs: customized solutions from AVENTICS

Looking for something custom? You've come to the right place. Because customer-specific solutions have always been our specialty. If there's a suitable solution for your task, we will find it.

Valves, valve systems and components you will find nowhere else

Our offering picks up where the standard stops. You're looking for customized automation solutions to optimize your applications? With this in mind, we have formed 'customized solutions' departments focused on providing one-of-a-kind designs with finely-tuned functions. These could include fully customized valves, as well as slightly but critically modified components from the standard program, or comprehensive working units. Main tasks include adaptation to the specific installation situation, required protection class and system configuration including control panels, cabinets, and correct compressed air preparation.

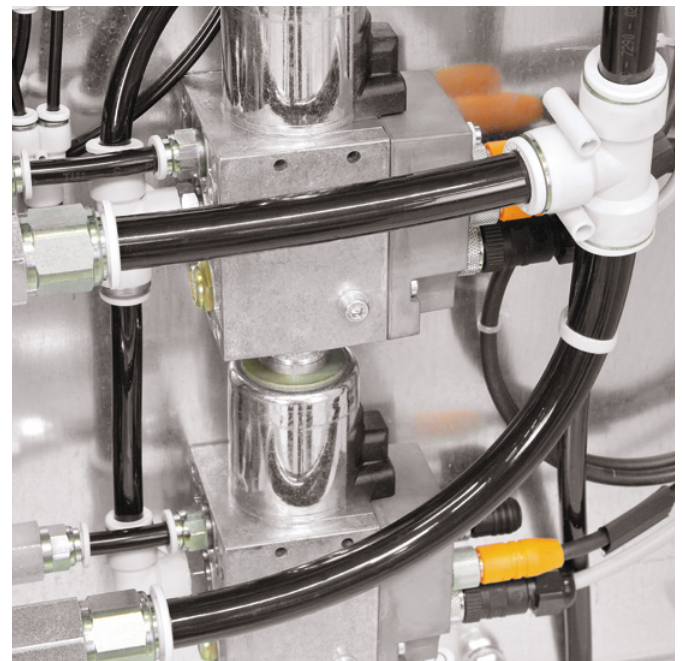
- Modified valve systems
- Modified valves
- Modified maintenance units
- Modified cylinders
- Special equipment
- Cylinder valve units
- Control panels
- Control cabinets
- Complex pneumatic systems including electric controls
- Customized new product developments

- ▶ Preassembled valve solutions with all essential control components for your application – ready-to-install, interconnected, and fully protected against external influences.

Our product development experts realize specific product adaptations and special solutions just for you. Their tasks range from simple modification of existing products to completely new designs and product solutions for your application.

- Modification of standard components
- Integrating various functions in a single product
- Product development with additional specifications
- Integration of electrical system and pneumatics

From highly complex projects with functional integration to careful, yet effective, adjustments, the tailored components offer clear added benefits for your application.

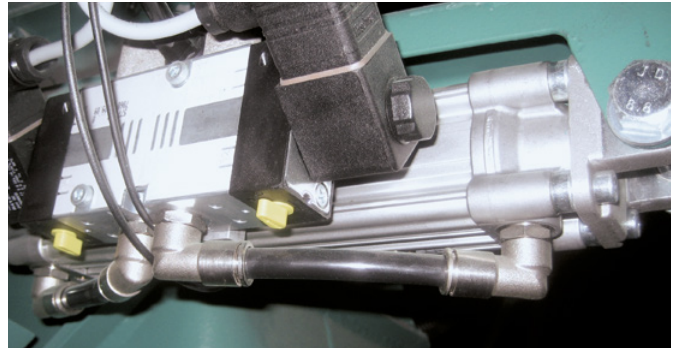


As diverse as your applications: some examples

Cylinder valve units

We configure the perfect valve-cylinder combination for every task and work environment – with all required special functions.

- Extensive basic cylinder range with piston diameters from 25 to 320 mm and strokes from 80 to 1,000 mm
- Equipped with safety valves, check-choke valves, stop valves and energy-saving valves
- Integrated sensors, pressure regulators, compressed air accumulators, mounting elements, etc.



▲ Cylinder valve unit as a decentralized control unit for opening and closing spools in a silo system.

Modified valve systems

Based on suitable valves and valve electronics from the standard product range, the valve systems are configured with specific add-on components, function units and necessary accessories, and preassembled ready for installation.

- Flow range from 100 to 6,000 l/min
- All electrical connection options



▲ Valve system for use in a bottle-filling plant with protection class IP67.

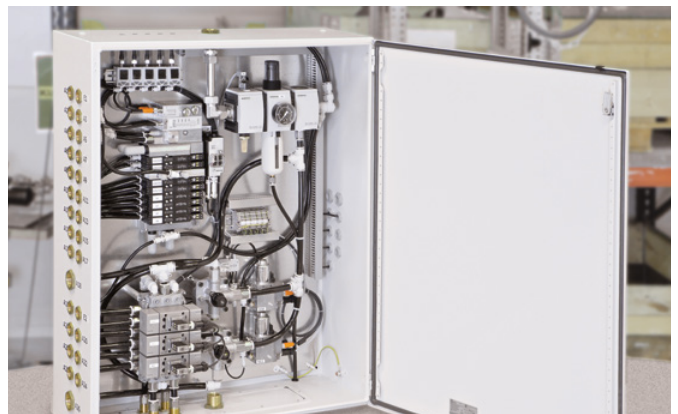


▲ AV valve system with integrated E/P pressure regulator and AES connection technology

Application-specific control cabinets and control panels

The spectrum of control cabinets ranges from a small switch box with basic functions to a complex switching center with all control options and PLC. The control panels are specifically adjusted to the available space in the machine and the work environment, and come preassembled and fully tested.

- Sizes from 300 x 300 x 210 mm to 1,500 x 2,500 x 500 mm
- Custom paint jobs
- Electronic controls incl. fieldbus connections
- Compressed air preparation with all functions (press./vac.)
- Use of ATEX components



▲ Electropneumatic control cabinet for the control of entire automation processes.

In dialog with our customers and partners

Your homepage for non-stop service

The AVENTICS Internet portal is available day or night. Our online catalog provides you with information about our entire product assortment including all technical details, as well as our sophisticated Engineering Tools.



Based on proven expertise and a first-class product portfolio

Our understanding of cooperation goes well beyond individual projects. We are constantly in dialog with our customers and are always a competent contact for both technical and economic questions. The know-how contained in our comprehensive pneumatic product range gives us a solid foundation for our work.

- Cylinders and accessories
- Valves and valve systems
- Air supply management
- Vacuum Technology

Understanding our customers allows us to respond more quickly and gives us a head start in achieving tailor-made solutions. Thus, we always remain close to the action and ensure the technological lead for us and our customers.



Online catalog

The fastest point of entry is via our online catalog. Here you can start your search directly by entering a part number or keyword.



CAD

Your desired object can be issued here directly as a CAD file in various formats, as a PDF file, or for further configuration in your software.



Configurators

The configurator can be reached by clicking the selected product. After selecting your product, you can begin to adapt it to your own specifications.



Calculation programs

Here you can specify the dimensions or load-bearing capacity of your components with a wide variety of calculation options. We also provide an air consumption calculator as a special feature.



Circuit diagram software

With the D&C Scheme Editor, you can quickly and easily create circuit diagrams that are based on your component layout and linked to your catalog selection.



eShop

The eShop is our online shop that answers your price requests and monitors the whole order process up to delivery.



CylinderFinder

The CylinderFinder facilitates selection of the suitable cylinder from all available variants and designs.



A noticeable difference: end-to-end support

AVENTICS customers are demanding. They expect a great deal – and get even more in return. Expert consultation, future-proof solutions, exemplary service, user-friendly Engineering Tools and knowing they are a step ahead of the competition.



Because a standstill is a step backwards

Continuous progress safeguards our economic and technological edge. That is why we are constantly optimizing products, systems, procedures, and technologies. Hearing from our customers every day helps us systematically build on our core competences while bringing practical innovations onto the market.

AVENTICS customers have a vision. Refusing to settle for less, they choose a product concept with built-in progress. Worldwide.

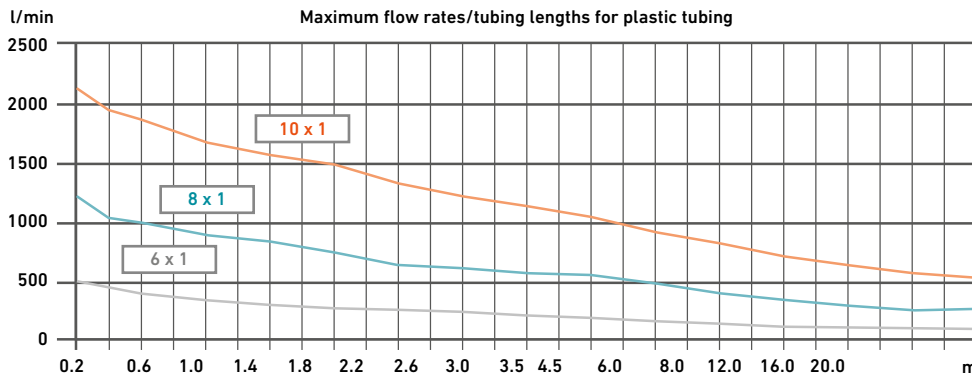
- Task analysis and function definition
- Cross-technology solutions
- Application-specific configuration
- Delivery and installation on time and schedule
- Test runs to optimize functions
- Technological updates
- User-friendly Engineering Tools

- QR code:
Just a single picture of the QR code on your product on your cell phone or tablet brings you straight to your configuration, wirelessly, from anywhere in the world. For easy reordering, additions, or fast contact to Service.



Which system is right for my application?

Qn l/min	< 400	400 – 800	800 – 1200	1200 – 3000	3000 – 6000
Very compact	AV03	AV05			
Compact		ES05 TC08		TC15	
Standard		HF03 CL03		HF02	
ISO standard			CD01	581	



	AV03	ES05	AV05	HF03	CL03	TC08	HF02	CD01	TC15	581
Pressure range regulator	●		●					●		
Individual valve regulator	●		●	●				●		●
Vacuum ejectors				●						
Stacking assembly of diff. sizes	●		●	●			●			●
Dual pressure range capability	●		●	●	●	●	●	●	●	●
Pressure zones	●	●	●	●	●		●	●		●
Integrated throttles										●
E/P integration	●		●							

Compact design

The dimensions per flow rate are an important factor when it comes to compact valve construction. As machines and systems continue to be optimized, smaller installations are growing in importance. Size, weight, and easy integration into compact machine designs are the deciding factors in many applications.

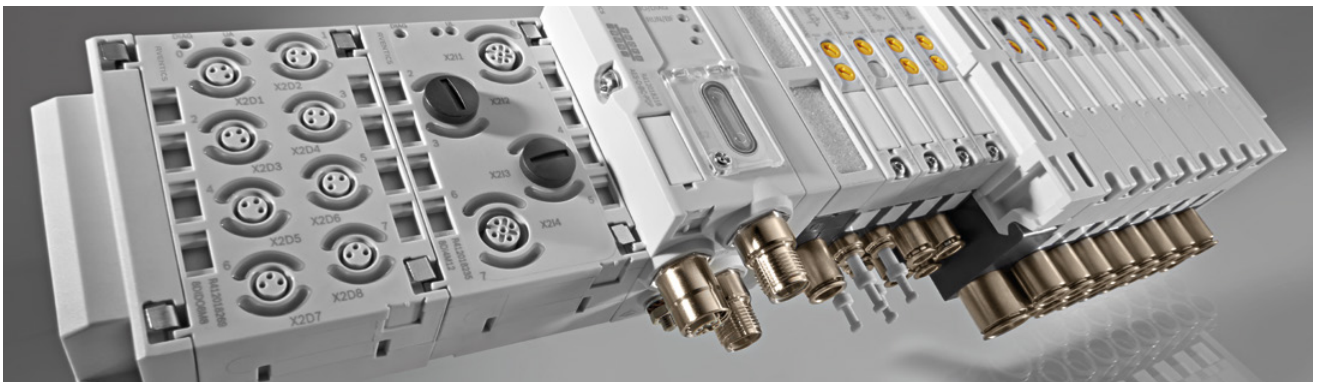
Connections

The drive's air consumption, valve connections, and flow controls on the tubing side determine valve selection based on the flow rate. Throttling should already be considered in the planning stage.

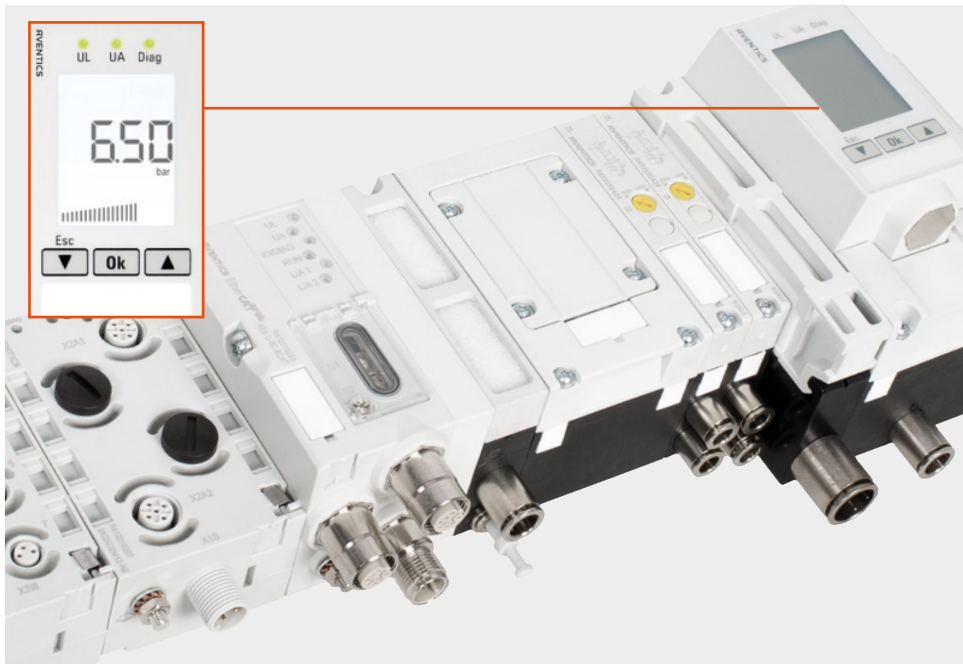
Equipment options

The option of integrating pressure control for individual valves or whole sections, flow controls, vacuum ejectors or pneumatic separation of pressure ranges increases the controller's overall functionality. The possibility to change the type of electrical connection at a later date makes the system convenient and flexible.

Valve systems					
Qn		Series	Functions	Connections	Control
50 – 850 l/min		490/579/589	3/2, 5/2	Ø 6 x 1, Ø 8 x 1	Single plug, pneumatic
300 l/min		AV03	2 x 2/2, 2 x 3/2, 5/2, 5/3 E/P	Ø 4, Ø 6, Ø 8	Multipole plug, AES fieldbus, IO-Link
600 l/min		ES05	2 x 3/2, 5/2, 5/3	Ø 8	Single plug, multipole plug, AES fieldbus, IO-Link
700 l/min		AV05	2 x 2/2, 2 x 3/2, 5/2, 5/3 E/P	Ø 4, Ø 6, Ø 8	Multipole plug, AES fieldbus, IO-Link
700 l/min		HF03-LG	2 x 3/2, 5/2, 5/3	G1/8, Ø 8, NPTF 1/8	Multipole plug, AES fieldbus, BDC, DDL
700 – 1,400 l/min		CL03	2 x 3/2, 5/2, 5/3	G1/4, Ø 5/16, Ø 8, Ø 3/8	Multipole plug, BDC fieldbus
800 l/min		TC08	2 x 3/2, 5/2, 5/3	G1/8, NPTF 1/8	Single plug, pneumatic
1,010 l/min		CD01 CD01-PI	2 x 3/2, 5/2, 5/3	G1/8, G1/4, 1/4 NPT, Ø 4, Ø 6, Ø 8, Ø 10, Ø 3/8"	Single plug, multipole plug, AES fieldbus, BDC, DDL Pneumatic
1,400 l/min		HF02-LG	2 x 3/2, 5/2, 5/3	G1/4, Ø 10	Multipole plug, AES fieldbus, BDC, DDL
1,500 l/min		TC15	2 x 3/2, 5/2, 5/3	G1/4, NPTF 1/4	Single plug, pneumatic
1,400 – 6,000 l/min		581	2 x 3/2, 5/2, 5/3	G1/8, G1/4, G3/8, G1/2, G3/4	Single plug, pneumatic



Single valves					
Qn		Series	Functions	Connections	Control
50 – 850 l/min		589	2/2, 3/2, 5/2	Ø 6 x 1, Ø 8 x 1	Electric, pneumatic
200 – 310 l/min		LS04	2 x 3/2, 5/2, 5/3	Ø 4 – Ø 6	Electric
600 l/min		ES05	2 x 3/2, 5/2, 5/3	Ø 8	Electric
600 – 800 l/min		TC08	2 x 3/2, 5/2, 5/3	G1/8, NPTF 1/8	Electric, pneumatic
900 l/min		CD04	3/2, 5/2, 5/3	G1/8, PTF 1/8	Electric, pneumatic, mechanical
900 – 1,400 l/min		CD07	3/2, 5/2, 5/3	G1/4, M14 x 1.5	Electric, pneumatic, mechanical
1,100 – 1,500 l/min		TC15	2 x 3/2, 5/2, 5/3	G1/4, NPTF 1/4	Electric, pneumatic
3,600 – 4,100 l/min		CD12	3/2, 5/2, 5/3	G1/2, M22 x 1.5	Electric, pneumatic
200 l/min		840	4/2	Ø 6 x 1	Electric, pneumatic
700 – 1,100 l/min		740	5/2, 5/4	Ø 8 x 1, Ø 10 x 1	Electric, pneumatic
700 l/min		CL03-EV	2 x 3/2, 5/2, 5/3	Ø 8 – G1/8	Electric
150 – 550 l/min		AP	2/2, 3/2, 4/2	G1/8, NPTF 1/8-27, G1/4, M5	Mechanical, manual
280 l/min		ST	3/2, 5/2	G 1/8	Electric, pneumatic, mechanical, manual
1,000 – 7,000 l/min		CERAM	5/2, 5/3	G1/8, 1/4, 3/8, 1/2 NPTF 1/4, 3/8, 1/2, 3/4, 1	Electric, pneumatic
1,300 – 2,000 l/min		SV07	3/2	G1/4 – G3/8	Electric
3,000 – 8,600 l/min		SV09	3/2	G1/2	Electric
950 – 6,000 l/min		581	5/2, 5/3	ISO 5599-1	Electric, pneumatic
1,350 l/min		563	3/2	G1/4	Electric, pneumatic
4,240 l/min		565	3/2	G1/2	Electric, pneumatic
13,620 l/min		567	3/2	G1	Electric, pneumatic
300 – 1,100 l/min		563-018	4/2, 4/3	G1/8	Manual



◀ AV-EP series

Adjustment, diagnosis, or monitoring: The clearly visible and easy-to-operate system display offers a wide range of functions.

Electropneumatic pressure regulators					
Qn		Series	Functions	Connections	Control
120 l/min		ED02	3/3	G1/8, NPT	Electric
1,000 l/min		ED05	3/3	NPTF, G1/4	Electric
1,300 l/min		ED07	3/3	G3/8	Electric
2,600 l/min		ED12	3/3	G3/4	Electric
600 l/min		EV03	3/3	G1/4	Electric
300 l/min (single pressure) 425 l/min (pressure zone)		AV03-EP	3/3	Via valve system	Electric
430 l/min (single pressure) 500 l/min (pressure zone)		AV05-EP	3/3	Via valve system	Electric

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