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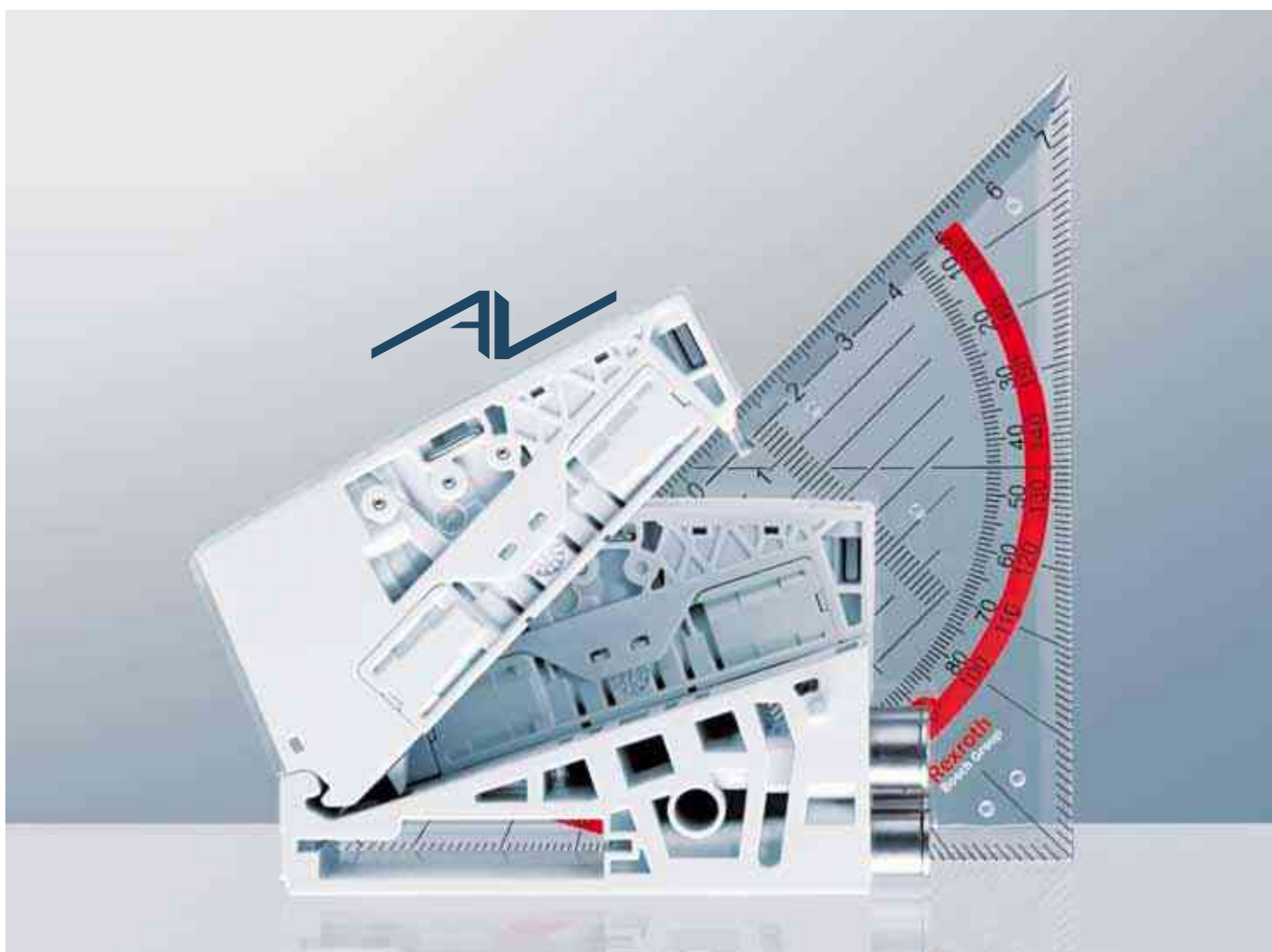
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The Drive & Control Company

**Rexroth**  
Bosch Group

# Rexroth AV03 Valve System New Generation, New Geometry, New Technology

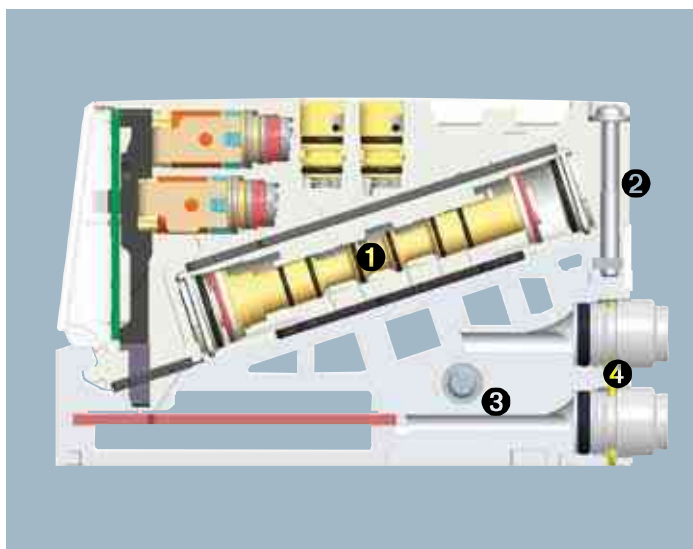


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## Ingenious A valve system with an innovative design

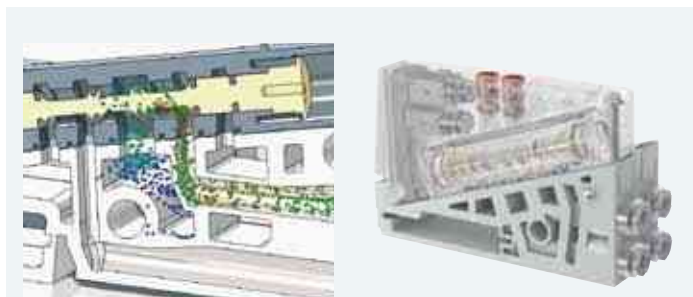
The research and development experts at Bosch Rexroth have developed a revolutionary valve system. In focusing on its geometry and using high-tech materials, they have optimized all the internal components.

The resulting AV03 is a compact, lightweight, and efficient valve system. Its air flow and channeling performance is best in class.



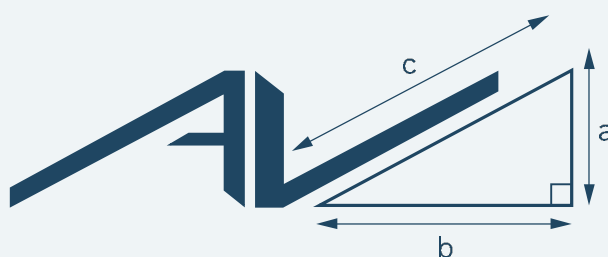
Compact, lightweight, high-performance, space-saving: all priorities for the Bosch Rexroth specialists when designing this new valve system.

- ❶ With its diagonal spool, the AV03 offers you a compact device that lets you optimize the air supply and exhaust channels.
- ❷ The valve is secured with a single screw, making assembly/disassembly fast and easy
- ❸ High-performance injection-molded polymer components make the product lighter
- ❹ The ports of the valve system can be modified or exchanged



No fewer than five patents for the AV03 have been applied for. Its special design optimizes air channeling so your valve system can increase the flow volume in minimal space.

### Did you know?



**AV: Advanced Valve**

Drawing on the Pythagorean theorem, Bosch Rexroth has exploited the advantages of the hypotenuse to save space.



## Unmistakable Multiple benefits

The AV03 valve system gives you a head start on the market when responding to demanding requirement specifications. It adapts to all of your applications and remains in a state of constant evolution. It is lightweight and simple to disassemble, offering a high level of maintenance simplicity. With the AV03, you're investing in an AdVanced product!

### Compact and lightweight

- Direct improvements compared to existing technologies:
  - 30%** less space (saves space, e.g. in control cabinets)
  - 55%** lighter thanks to high-performance polymers and reduced component size
- Special range of connectors to avoid exceeding the height of the system when it is configured

### Energy-efficient

- Direct improvements compared to existing technologies:
  - 15%** energy gain when using the valve system in embedded systems due to the weight benefits
  - 20%** less compressed air because the system is closer to the actuator
  - 40%** greater air flow thanks to optimized air channeling



### Flexible

- Adaptation of the valve system to machines requirements
- Configuration of valves in increments of 1, thanks to double and triple base plates
- Extension without loss of addressing or programming
- Option to extend the valve system using a retrofit kit
- Ports can be modified or interchanged

### Fast

- Fast connection to bus: 1 ms (full configuration)

### Simple

- One tie rod: fewer components, ease of assembly/ disassembly while maintaining high rigidity





# Complete The AV03: details and benefits

## Electronics

- Fieldbus  
Galvanic isolation between the valves' power supply and the control electronics



- D-Sub 25 or D-Sub 44 connector:  
Two possible orientations

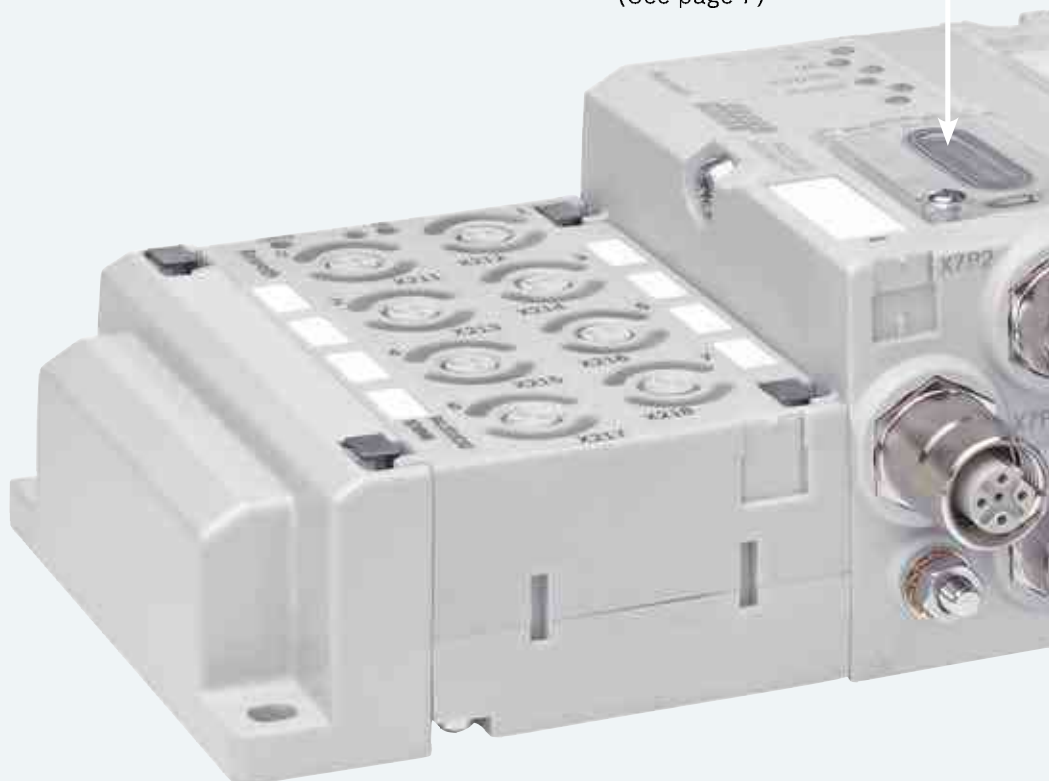


- Special connector program to avoid exceeding the height of the valve system



**Protection class IP65  
(with IP65 connectors)**

**Module address**  
(See page 7)



## I/O modules

- Easy-to-read from all angles (360° indication)
- Up to 80 I/Os (10 modules)
- Digital I/O technology





### Valves

- ▶ Manual override: push or push-and-lock
- ▶ Nominal flow: 300 std. l/min
- ▶ Filtration to 40 µm
- ▶ Food-safe lubricant certified as NSF H1
- ▶ Up to 64 valves and 128 coils
- ▶ Width: 12 mm
- ▶ All pneumatic functions



**Factory configuration code** (see page 7)

### Product shown in actual size

- ▶ Height: 53,3 mm
- ▶ Depth: 82 mm without connections
- ▶ Weight: < 1,2 kg

### Pneumatic connections

- ▶ Supply: 8 mm
- ▶ Working connections: 3, 4 and 6 mm
- ▶ Internal or external pilot supply
- ▶ Angled connector, 90°:
  - pointing up
  - pointing down
  - straight
- ▶ Separation of valves into pressure zones



### Exhaust modules

- ▶ Three modules available:
  - Integrated flat silencer, removable (maintenance friendly)
  - Common restricted exhaust
  - Separate exhaust or reversed supply with two pressure levels





# Effective The online configurator

Easy, practical, and convenient – the online configurator gives you fast access to all the information for the valve system created: code, price, and technical documentation. The integrated CAD tools save you time in your planning.

From the online pneumatics catalog:

[www.boschrexroth.com/pneumatics-catalog](http://www.boschrexroth.com/pneumatics-catalog), click on the 'Configurator' link at the right side of the screen.

The AV03 belongs to the «Valve Systems» family.

Configuration of your valve system requires four steps.

## ► Step 1

Select the type of connector or bus.

## ► Step 2

Select basic parameters (plug orientation, pin assignments, type of base plate).

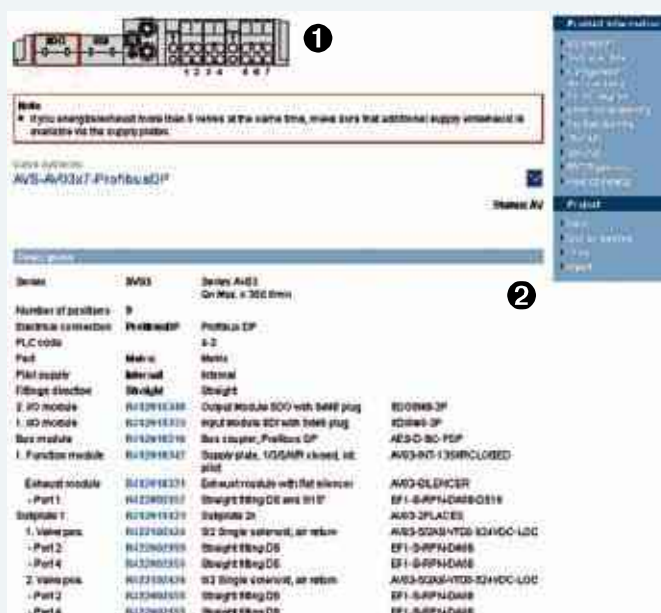
## ► Step 3

Valve system configuration: by clicking on the different areas in the display ❶, you can configure them.

## ► Step 4

Save and download the technical documentation with order number and price of the valve system (access for saving is available only after you have logged on: see the «Log on» link).

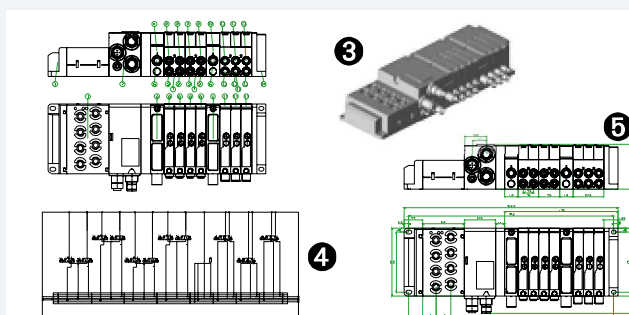
Download the CAD file for 2D (DXF format) or 3D (8 possible formats).



Note: You can return to the various steps of your configuration at any time by using the menu ❷.

The technical documentation includes:

- your parts list with 3D view ❸
- your pneumatic connection diagram ❹
- your plan and the dimensions of your valve system ❺



# Intuitive Incorporating the valve system in the fieldbus

You can put your valve system into service in less than two minutes. Reliable and simple, the procedure allows you to rapidly integrate the AV03 into your application's architecture using the configuration code printed on the right side of your product.

## ▼ The three steps for configuring a valve system

### ► Step 1

Enter the factory configuration code in your automation software.

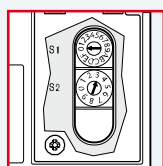


4-3\*

\* Numbering system recognized by all CAD programs

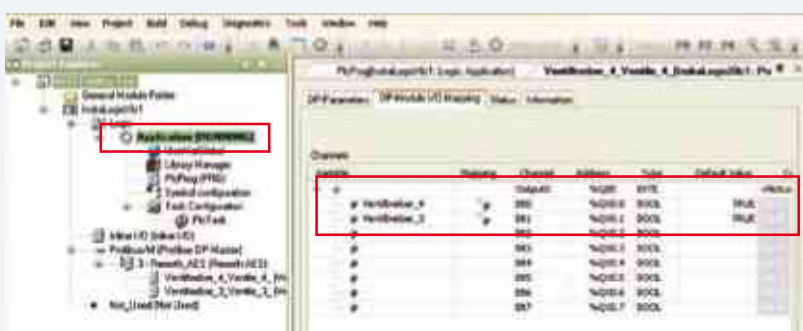
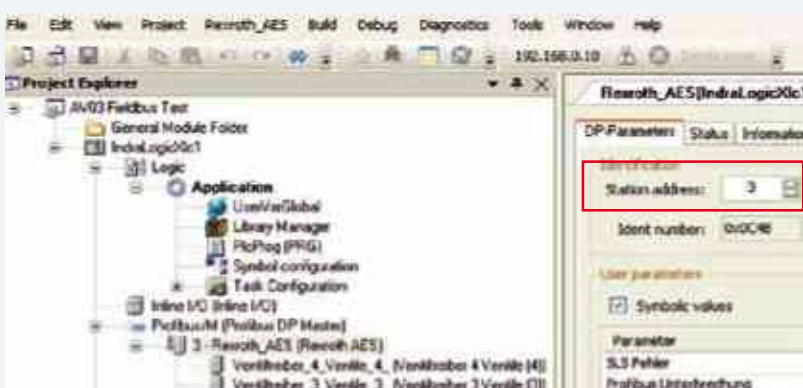
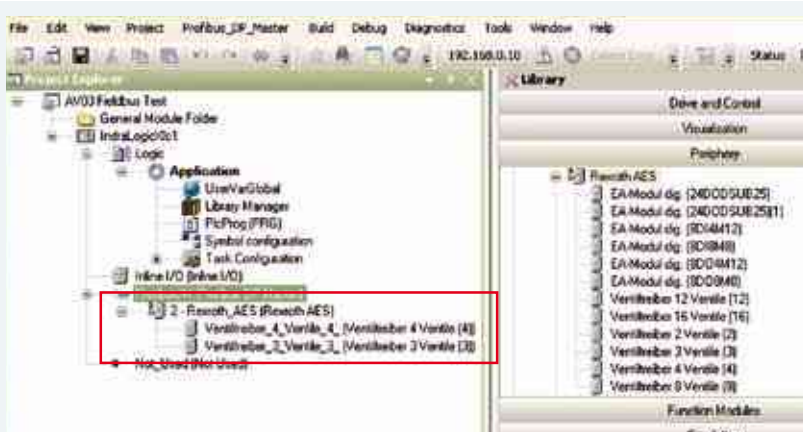
### ► Step 2

Set the address of the module, and modify it later if necessary.



### ► Step 3:

That's all. Your valve system is operational.





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