



## Railway

In London trains, AVENTICS electronic levelling valves provide for accessibility and energy efficiency

### Expert Interview

Dr. Frank Kuhnecke, organizational psychologist,  
on trust and collaboration with customers

### Truck-Mounted Forklifts: Pneumatic Safety

AVENTICS offers preassembled all-in-one solutions for trucks

## Pneumatics

It's that easy

# AVENTICS<sup>A</sup>

## PNEUMATICS IT'S THAT EASY

**The best for your business:** Choose AVENTICS for fast, easy, reliable results.

Thanks to our expertise and service, we can continually provide you with tailored solutions and products for industrial pneumatics – just in time.

Benefit from our extensive know-how in special applications and our industry expertise.



*"Our pneumatics specialists speak the customers' language, they understand the challenges facing the manufacturers of railway technology and medical engineering, for example, today and in the future."*

Paul Cleaver  
CEO AVENTICS



## Dear readers,

"Trust is the basis for successful cooperation. But cooperation means much more than just selling components", says organizational psychologist Dr. Frank Kuhnecke in an interview for this magazine. Building trust among our customers has been a key driving force for us during the last two years since we became AVENTICS. Gaining trust requires the building of a solid yet fertile foundation by understanding customers, their needs and requirements. Trust is the essence that brings the heart and soul of a company to life.

AVENTICS has worked hard to further sharpen the profile and knowledge in our industry sectors. Our experts speak the customer's language, they understand the challenges e.g. railway companies and medical device manufacturer are facing – now and in the future. Being easy to do business with is another trust-building aspect, enabling closer relationships with our customers. Consequently, our new country units in Spain and Singapore just started to operate, more locations will follow throughout this year. Our motto: providing local access on a global scale.

We listened to our customers and are proudly presenting three new milestones in 2016: With our simple, safe and effective ES05 valve series, which will be launched at the Hannover Fair, we created a modular system for self-assembly. Driving digitalization forward, we are launching the AVENTICS SmartShop in the USA and in China with more countries to follow soon, providing our customers with an intuitive online buying experience. A world premier will be our CylinderFinder: only a few clicks and you know what you need. We based all of our new online facilities on how the access of digital content is expected to be today: uncomplicated, straightforward, without any barriers.

Building trust through the ease of business, by being a reliable partner in an ever changing world, this is what AVENTICS is about.

Yours

A handwritten signature in black ink, appearing to read 'P. Cleaver'.

Paul Cleaver  
CEO AVENTICS

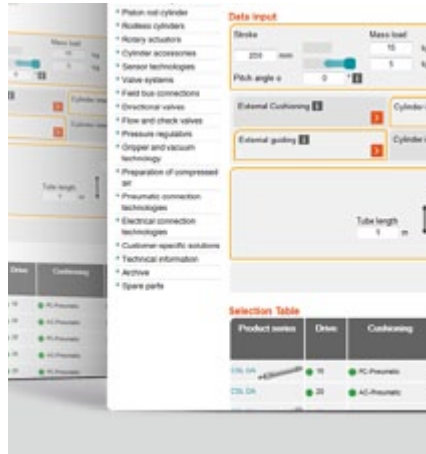
# CONTENTS



## 06 | KALEIDOSCOPE

AVENTICS news

From Bosch Preferred Supplier Status to the truck animated film - news from the AVENTICS world



## 09 | ENGINEERING TOOLS

The CylinderFinder

Find the right product with the new AVENTICS tool



## 10 | EXPERT INTERVIEW

Dr. Frank Kuhnecke

The organizational psychologist explains what companies should know when it comes to successful customer collaboration

## 03 | Editorial

## 14 | New product

### ES05 valve system

The new Essential Valve System, an especially simple solution for standard applications

## 15 | Product extension

### AV valve system

New functions and modules for the AV product family

## 16 | Food & Beverage

### Interview with Xavier Van Aelst

The industry manager explains current trends in the food and packaging industry

## 20 | Nordics: Stronghold of the North Once Mecman, now AVENTICS

In Scandinavia, the roots of AVENTICS date back to over seven decades ago.

## 22 | New product

### EV03 valve system

The display on the new electro-pneumatic pressure regulator creates more freedoms

## 23 | New product

### Safety valve IS12-PD

The redundant safety valve is an assembly-friendly solution for pressurization and exhaust of pneumatic cylinders

## 24 | International

### Interview with Paul Grinham

Paul Grinham from AVENTICS sales partner Total Pneumatic Solutions explains why New Zealand is an attractive automation market

## 28 | RAILWAY

### Interview with Thomas Alm

The challenges awaiting the railway industry in the future explained by the Railway industry manager

## 30 | Preview of trade shows

### Presenting AVENTICS

Meet AVENTICS at selected trade shows in Europe, the US, and Asia in 2016



**18 |** **TRUCK-MOUNTED  
FORKLIFTS:  
PNEUMATIC SAFETY**  
**Preassembled  
all-in-one solutions for trucks**  
AVENTICS makes work easier  
for truck drivers



**26 |** **PRODUCTS IN APPLICATION**  
**Electropneumatic valves**  
In London trains, AVENTICS electronic leveling valves  
provide for accessibility and energy efficiency



# KALEIDOSCOPE

## AVENTICS – BOSCH'S TOP CHOICE



Lars Nordström, Corporate Lead Buyer Machine Components & Services for the Bosch Group, presents Preferred Supplier Status to Christoph Becker (right), Director Sales Germany, and Dieter Michalkowski (left), Global Account Manager, of AVENTICS

AVENTICS has been awarded "Preferred Supplier Status" in the pneumatics category for their above-average achievements in collaboration with the Bosch Group. The assessment criteria included high delivery reliability, clever technical solutions, compliance with international standards, and the global alignment of the supplier. While presenting the certificate, Lars Nordström, Corporate Lead Buyer Machine

Components & Service at Bosch in Stuttgart, emphasized: "Our suppliers are an important success factor for us. The global alignment of a supplier is particularly crucial for the Bosch Group." He was very pleased to be able to award the pneumatics specialists operating under a young brand but with extensive experience. 

*"Our suppliers are an important success factor for us. The global alignment of a supplier is particularly crucial for the Bosch Group."*

Lars Nordström, Bosch Group



The AVENTICS world is growing with two additional sales sites in Spain and Singapore. In Spain, Michele Burla has been active as General Manager Spain, while Kelvin Yeo heads the new country unit in Singapore as General Manager Singapore. Relocation to the new offices has already taken place at both locations. As a result, AVENTICS is now represented with 20 country units worldwide. The expansion to additional locations is an integral part of the AVENTICS growth strategy. 

## NEW LOCATIONS IN SPAIN AND SINGAPORE



Michele Burla (left), General Manager Spain, and his team

## PNEUMATICS BLOGS IN HUNGARY AND ITALY

For many engineers today, social media and interactive discussions on the Internet are an important source of information. For this reason, AVENTICS is launching Internet blogs in a growing number of countries with posts on the subject of pneumatics. The first was started at the subsidiary in Hungary. At [www.pneumatika.hu](http://www.pneumatika.hu), Hungarian specialists post regularly about AVENTICS Hungary and answer questions about pneumatics.

In Italy, AVENTICS was also the first company in the industry to start an online blog. "With [blog.aventics.it](http://blog.aventics.it), we engage directly with customers, dealers and other interested parties," emphasizes Sergio Caligara, Vice President Sales Europe. It offers a wide range of topics within the Industrial Automation sector: "Products and Technology," "Industry Trends," "Case Studies," "Expert Responses," and "AVENTICS News".

Interesting first-hand pneumatics news:  
AVENTICS blogs in Hungary and Italy



## COSTS AND WEIGHT IN COMPETITION: BACK TO PNEUMATICS



Race cars switch gears faster with AVENTICS pneumatic components

For the past 35 years, several hundred student teams have competed with each other worldwide in the Formula Student. The annual competitions take place in the USA, UK, Australia, Italy, Japan, Brazil and Germany. Students work in teams to create a single-seat race car. Winners include not only the fastest car, but also the team with the best overall package combining design, performance, financial planning, and selling points.

At the Formula Student Germany, race cars with AVENTICS pneumatic solutions can be found at the starting line. For five years, the company has sponsored a team from the University of Applied Sciences Mittelhessen (THM) with a race car featuring a pneumatic switching system. For the 2015

Formula Student, AVENTICS extended its sponsorship to the teams from Bundeswehr University Munich, Munich University of Applied Sciences, as well as Regensburg University of Applied Sciences for the first time. OTH Regensburg, for example, uses the electropneumatic pressure regulator from the ED02 series to realize even shorter switching times. After experimenting with electromechanical switching and coupling last year, the Munich University of Applied Sciences students returned to a pneumatic solution for cost and weight reasons.

# KALEIDOSCOPE

## A NEW BROCHURE ON THE AVENTICS PNEUMATIC PROGRAM IS HERE

The new AVENTICS brochure provides an overview of the most important products from the AVENTICS pneumatics range. In its 32 pages, you can find everything from cylinders and valves to air supply management and vacuum technology, to configuration and customer-specific solutions. The brochure is available in English and German. ⓘ



## SIMPLE SPARE SUPPLY – THE AVENTICS ONLINE SPARE PARTS CATALOG

The AVENTICS digital catalog for spare parts was expanded in 2015. Ever since, customers have been able to find all available series there – valves and accessories, in addition to FRL and cylinders. To order a spare part, only the product's ten digit material number is required. Alternatively, a keyword search is also possible. The spare part can then be ordered in the eShop with just a few clicks. The spare parts catalog is available in 14 languages. ⓘ

► Further information  
[www.aventics.com/spc](http://www.aventics.com/spc)

## EVEN SAFER WITH AVENTICS



Since July 2015, AVENTICS has been attracting attention in Eger – and ensuring more safety. A special non-slip coat with an AVENTICS logo alerts drivers in the Hungarian city of a cross walk located near the school. An ad campaign with added value – partic-

ularly at night and in bad weather. The roughened surface of the coat nearly cuts the breaking distance in half, compared with standard asphalt. The ad campaign idea came from a worker at the AVENTICS factory in Eger. ⓘ

## THE WORLD OF TRUCKS IN THREE LANGUAGES

Modern animations provide an excellent medium for clearly explaining technical solutions. That's why AVENTICS has created an animated film explaining the use of pneumatics in trucks. In the film, the speaker guides the audience through the world of truck products in German, English, or Chinese. Simply go to the website and click on the film. ⓘ



► Further information  
[www.aventics.com/truck](http://www.aventics.com/truck)



# CHOOSING A CYLINDER – AS EASY AS BOOKING A FLIGHT

With the new CylinderFinder from AVENTICS,  
choose the right product within just a few minutes




Just a few years ago, booking flights was so complicated that people had to go to a travel agency. Only there did the sales staff have access to the complicated booking systems. Today, all it takes is some clicks on an easy-to-understand website to select the right flight and book in just a few steps. AVENTICS has now applied this simple principle to selecting and configuring pneumatic cylinders with its online CylinderFinder.

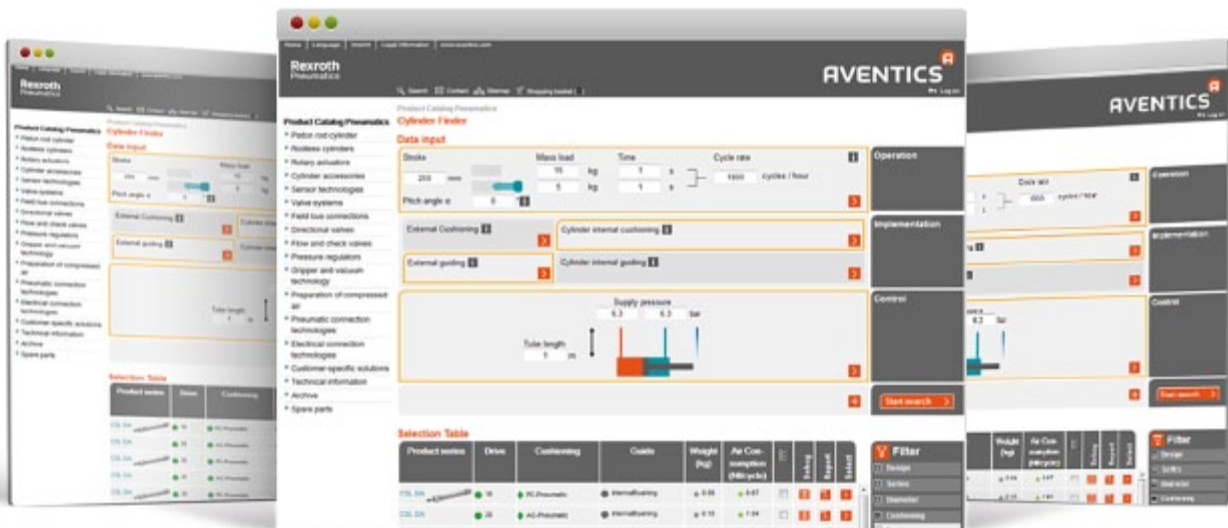
## The right cylinder, quickly and easily

To use the new tool, users do not have to log in, install anything, or have administrator rights on their PC, tablet, or smartphone. The online tool works in all standard Internet browsers and accesses a server featuring all AVENTICS cylinder families and variants in the background. During layout, the web designers placed a special focus on user friendliness to enable easier, faster results for users. In record time and without any prior knowledge, they can find cylinders from the AVENTICS product offering that match their individual requirements.

First, users enter application data, such as the stroke, cycle time, and useful load. Practical tips are displayed in an info field for each entry. Next, they can filter by specific requirements, for example by explosive atmosphere or special hygienic conditions.

The CylinderFinder uses each piece of information to narrow down the selection further. It then displays a list of possible products. Now, the engineer can call up important detailed information and compare the different cylinders. The tool also shows the bearing load for each cylinder variant. Customers can decide if they want to work with reserves or set an exact configuration. The tool even highlights especially energy-efficient cylinders for the specific application.

Once users have selected a cylinder, they can fine-tune the product in the configurator and purchase it from the AVENTICS eShop. The new CylinderFinder makes selecting cylinders easy, uncomplicated and quick. 



# "SUCCESSFUL COMPANIES FOLLOW THE CUSTOMER'S LOGIC."

Interview with Dr. Frank Kuhnecke,  
organizational psychologist and coach

---



The customer is always right. But what can companies do to make sure every customer actually feels this way? Organizational psychologist Dr. Frank Kuhnecke explains why trust is the basis for all collaboration and what will change due to digitalization.

How can companies best adapt to their customers?

**Dr. Frank Kuhnecke:** All customers, be it private and business, have their own idea as to how they choose products, what expectations they have on consultation, and how the order should be processed. Successful companies follow the customer's logic. A good example for this is clothing stores. In modern concepts, the offer is no longer sorted by the product group, as in shirts here, pants there, but by style and occasion: an island of business clothing with suits, matching shirts and shoes here, an island with leisure clothing, t-shirts, and jeans there. In the capital goods sector, customer-oriented providers follow customer logic by bundling their goods and services by industry, for example. This allows customers to find their way much more quickly.

How important is trust for a long-term customer-supplier relationship?

**Dr. Frank Kuhnecke:** Trust is the basis for successful collaboration. But collaboration is more than just selling components as the customer would then already have had to address the topic and made a selection. With collaboration based on trust, customers trust the supplier to such an extent that they only describe the task and expect a solution they may not have thought of themselves. This consultation in particular makes a supplier a trustworthy partner that stands out from the competition.

*“In simple terms, credibility is the difference between a claim promised and reality.”*

---

But trust is a malleable property that is difficult to measure, isn't it?

**Dr. Frank Kuhnecke:** *Trust can be defined very exactly and can thus also be measured. An excellent approximation is possible with the trust equation developed by American authors. Trust develops from credibility, reliability, and proximity. In simple terms, credibility is the difference between a claim and reality. If a supplier claims to have a tailored solution for every problem, but only offers standard products, the supplier's credibility suffers. Reliability is particularly crucial when it comes to keeping promises, for example for delivery dates. Changing promised dates later is a no-go. Proximity can be measured with the frequency and intensity of contact and through regional presence. But there are also behavioral patterns that hurt trust, namely the spoken and unspoken self-interests of the supplier.*



TRUST IS THE BASIS  
FOR SUCCESSFUL  
COLLABORATION.

What is hiding behind these self-interests?

**Dr. Frank Kuhnecke:** *There are self-interests accepted by everyone, such as yielding returns. Customers and suppliers in machine engineering all have this in common. Where it gets tricky is how much the business is allowed to profit. On the other hand, companies have their own agenda that the customer doesn't really like. For example, there are manufacturers that claim their solutions are open, but in reality, they force their customers into a closed system with their own interfaces, placing their own interest before the interest of the customer while claiming to focus on the customer. In this case, it is especially vexing when other manufacturers offer similar or even better alternatives at low costs that can't be used. When the customer notices, this lowers their trust in the business partner.*

ACROSS THE GLOBE, WE  
ARE EXPERIENCING  
A NEW GENERATION, AND  
THE DIGITAL NATIVES ARE  
ENTERING THE WORKFORCE.



How important is personal consultation to customers?

**Dr. Frank Kuhnecke:** *Very important. All customers want as much personal support as possible when they need it. And as a company, you have to convey this feeling. But there are different expectations: the decision-makers, that is the engineers, look for a technically competent contact to solve problems in more complex tasks. This demands technical expertise and application knowledge of the sales staff as well as the readiness to dedicate oneself to the customer's task. In contrast, purchasers place value on quick, simple processing. They prefer fast online access to all relevant information. In any case, the digitalization of business processes is a trend surpassing all others – it brings customers and companies closer together and simplifies collaboration.*

Where is the digital journey taking us?

**Dr. Frank Kuhnecke:** *Across the globe, we are experiencing a new generation, and the digital natives are entering the workforce. They grew up with the Internet and smartphones and often prefer to gather information online. They find traditional business processes with classic order processing rather tedious. This is why the online offer is crucial, even in mechanical engineering. Manufacturers must follow customer logic here in particular. How many clicks does it take for potential customers to find the products and solutions for their application, for example? Are online tools available for product configuration, and can I simply add the selected solution to my shopping basket? Or take spare parts as an example: Of course I can expect the end user to remove the component first and search for the order number in paper catalogs. But I can also make it easy and apply a QR code to the component which leads directly to the part in an eShop.*

Does this mean customer proximity is becoming less important due to digitalization?

**Dr. Frank Kuhnecke:** *Digital business processes take the burden of routine activities off decision-makers, purchasers, and suppliers. They gain time. This applies to sales in particular. Customer-oriented companies use this as an opportunity to increase the competence of their sales staff and to offer customers additional consultation. In many cases, the customer doesn't want a sales staff member to stop by even just an hour a month. But if customers need something, they want to work on a problem with their contact maybe for a few days. In the future, sales contact will become rarer, but more intensive.*

## The trust equation

Trust =

Credibility + reliability + intimacy

Self-orientation



SALES HAVE TO  
CONTINUALLY CONFIRM  
CUSTOMERS IN THEIR  
DECISIONS AND TO IMPRESS  
THEM WITH CONFIDENCE-  
BUILDING INFORMATION.




Will the cultural differences between the regions remain unchanged?

**Dr. Frank Kuhnecke:** Yes. The world may be getting smaller, but there are still cultural differences and it is more important than ever to be familiar with them and take them into account. For example, when it comes to solving a technical problem, we in the German-speaking world tend to list the problems first. German customers correctly interpret this as the first step in problem-solving. In India, on the other hand, a supplier will always say "No problem." Both the customer and supplier know that that isn't true, but they also find solutions. Not understanding these differences means not understanding the customer's requirements – a lack of customer proximity. This is why it is so important to be present in Europe, Asia, and the Americas with local specialists who grew up in the respective culture. Of course, they have to have the freedom to adapt to the regional circumstances. In the future, direct, personal contact will remain a decisive factor for customer proximity and trust.

Why are customers turning their back on longstanding business partners?

What can companies do to attract new customers?

**Dr. Frank Kuhnecke:** On the one hand, customers change their suppliers as a measure. In medium-sized and larger companies, every few years upper management hands down the task of reducing the number of suppliers and reducing sales prices, along with similar specifications. Suppliers can only respond with their own adapted measures until the offer fits the new situation.

It's different if the trust has been lost, or no trust has been established after a customer staff change. Here, Sales has to respond quickly. What matters isn't chitchat, but facts. In the area of B2B, engineers and purchasers have to continually justify their decision in favor of a supplier. Good sales staff provide their customers with tough arguments to legitimize the decisions, preferably an entire chain of proof: supplier performance in percent, flexible response to special requirements, quality certificates, and fast service across the globe. But it isn't enough to just wing it when the situation gets critical. It is much more a constant task of Sales to continually confirm customers in their decisions and to impress them with this type of confidence-building information. 


Since getting his PhD in cybernetic psychology at the University of Gießen, Dr. Frank Kuhnecke has worked as an HR and corporate consultant in the IT and mechanical engineering industry. He provided major corporations with support during the introduction of the 360-degree feedback method. Since 2008, he has concentrated on the implementation of strategies and change processes. The passionate martial artist has practiced and taught Kung Fu for over 30 years.

# NEW ES05 PNEUMATIC VALVE SERIES: ESSENTIAL FOR STANDARD REQUIREMENTS

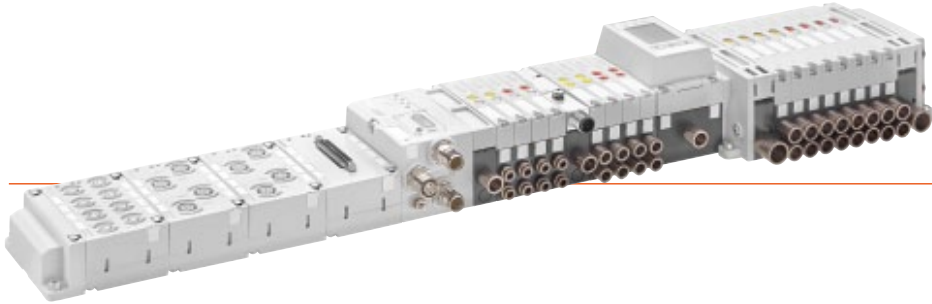
SWITCHING TIME UNDER  
**20 MS.**



With the new ES05 Essential System compact valve series, AVENTICS offers an especially simple solution for applications with standard requirements. The valves can be used separately, as well as in a valve system. The series can be extended up to twelve single or double solenoid valves by increments of 2. The new valves for flow rates up to 650 l/min are either controlled via single wiring with a type C plug according to industry standard, a D-Sub connection with 25 pins, or AES valve electronics from AVENTICS. AES supports all conventional fieldbus and Ethernet protocols. If necessary, the pilot coils can also be turned at a later stage to realize mixed connection configuration. The switching time for all valve functions is below 20 milliseconds, ensuring high dynamics with short cycle times. With single wiring, the ES05 complies with

protection class IP65. The series consists of just 24 material numbers and, because all components are unique, incorrect installation is virtually impossible. A single tool is all that is needed for assembly since all fittings are of the same type, tightened with the same torque. This simplifies assembly further and prevents errors. The portfolio also features the Essential Test Box, which fitters use to check the electrical function of the valves as well as to ensure the system has no leaks before installation in the machine. 

# SENSOR-FRIENDLY AND RELIABLE: NEW FUNCTIONS AND MODULES FOR THE AV FAMILY



**The AV family obviously meets the requirements of more and more users, and is the fastest growing product family in the history of the company. On the one hand, this is due to ever growing demand, but also the continual expansion of the AV family.**

Since the last issue of **A Mag**, our engineers have once again developed further components in hardware and software into series products. Here are the new functions at a glance:

**1** An additional analog input module is an inexpensive option for reading in up to four analog sensor signals via M12 connections. With an optimized data width of eight bits, users can cost-effectively integrate a wide range of signals from pressure to force and distance measuring to fill level sensors.


**2** The new digital input module processes up to 16 sensor signals - for example from the AVENTICS PE6 pressure sensors or the ST4-2P and SN2 proximity sensors. Four-pin plug connectors enable read-in of two signals per slot, for example from the AVENTICS PE6 pressure sensors or ST4-2P proximity sensors. A diagnosis function checks the power supply to the sensors.

**3** The new 2x2/2 directional valves in the sizes AV03 and AV05 are particularly suitable for vacuum or blowing functions.

**4** The AES control module is designed to control EP pressure regulators in order to realize control circuits with the aid of external sensors, such as superordinate pressure control and cylinder positioning as well as force, airflows, or speed control of air turbines using preset parameter sets. If necessary, AVENTICS specialists support the customer in optimizing the parameter sets for their individual application.

**5** A new control module offers parallel control of up to two valves within a fieldbus system via an M12 connection. The advantage over individual valves: the valves are located in the valve system, saving space and meeting protection class IP 65 with no added effort. The control module processes control signals that cannot come directly from the control, for example for safety reasons.

**6** A new pressure supply plate monitors the valve voltage  $U_A$  and reports any values that fall below the minimum ( $U_{A_{off}}$ ) to the control. This monitoring function is available for fieldbus connections and indicates that the valves are switched off electrically.

Beyond these new products, AVENTICS engineers are already working on a series of new functions and modules for the AV family. **A Mag** will report more on this topic in the next issue. 

# FOOD & BEVERAGE: “WE SPEAK THE LANGUAGE OF OUR CUSTOMERS – WORLDWIDE”

Interview with Xavier van Aelst, Director Food & Beverage at AVENTICS

---





*"Optimizing process with intelligent pneumatics, without making machines more complicated."*

Xavier van Aelst,  
Director Food & Beverage  
at AVENTICS



**With the new Food & Beverage industry management, AVENTICS is focusing its expertise for typical processes in the food and primary packaging industries. Xavier van Aelst, longstanding expert in the industry, heads the new department as Director Food & Beverage.**

**Why has AVENTICS reorganized its Food & Beverage industry management?**

**Xavier van Aelst:** AVENTICS products have been widespread in the food industry for decades and we want to expand their presence further. For this reason, we will provide the sector with even more support. We are working in even more intense collaboration with end users than ever to realize clear customer advantages with innovations. We focus our know-how in pneumatics and our application experience on three core processes: blow molding, filling technology, as well as food processing and primary packaging.

**What do you consider 'innovations'?**

**Xavier van Aelst:** As for blow molding and filling technology, we are currently working intensively on the processes in order to optimize them with intelligent pneumatics. The objective is to simplify the machine architecture. What's more: innovative,

*intelligent solutions make machine operating easier, increase productivity, and lower maintenance costs.*

**From your point of view, what is the topic customers focus on most?**

**Xavier van Aelst:** Food safety is a key topic. Thanks to global consolidation, standards across the globe are becoming ever stricter. The standards and directives on the different markets have long been a concern of ours and are the basis for our comprehensive portfolio of components with a hygienic design and approved materials. They are resistant to chemicals and can also withstand frequent cleaning cycles, which we have proven through comprehensive testing. For our core products, we also provide the corresponding certificates in accordance with the regional standards.

**What trends will shape the future?**

**Xavier van Aelst:** The Internet of Things is a very current topic. Everyone is talking about smart factories, and we are continually expanding our valve electronics to meet the new requirements of networking. Machine safety is another major topic. Here, we have proven expertise and just the right products. We support our customers in configuring and implementing machine safety in line with standards. By the way, with 150 million switching cycles, the AV family sets a record for availability and durability.

**How do you organize joint projects?**

**Xavier van Aelst:** As a medium-sized company, we are very flexible. For the three application areas of blow molding, filling technology, and food production/primary packaging, we have experienced specialists who coordinate our internal resources for the customer. This allows us to respond quickly. We cooperate with both global players and many medium-sized companies. And for us, it is extremely important to speak the language of our customers – worldwide. 

# TRUCK-MOUNTED FORKLIFTS: PNEUMATIC SAFETY

AVENTICS offers preassembled all-in-one solutions for trucks

*"Our system solution protects the health of drivers, helps them to save time, and therefore work more efficiently."*

Herbert Sturing,  
Sales Engineer at AVENTICS  
in the Netherlands



**Today, the truck driver has to load and unload construction materials at twenty stations. He repeatedly parks, exits the vehicle, and climbs underneath the truck-mounted forklift attached to the vehicle's rear. There, he manually triggers two metal bars that secure the forklift. This is dangerous and tedious – and no longer necessary, as AVENTICS now offers a preassembled all-in-one solution in the Netherlands, with pneumatics assuming this task.**

Truck-mounted forklifts make life much easier and more productive for truck drivers. They no longer have to wait for the customer to provide a means of transportation and are able to complete more loading processes each day. But commercial vehicle traffic has strict safety requirements, with good reason. The mountings must be able to reliably hold machines heavier than 1,000 kilograms, even when potholes or speed bumps strain the mountings or cobblestones give the vehicle a shake. This is the role of the two safety bars under the truck-mounted forklift.

The local AVENTICS specialists have now put together system solutions for a trailer manufacturer which they deliver preassembled. They cover different designs for all brands of truck-mounted forklift models. The complete package consists

of two pneumatic cylinders, one manually operated valve, one pressure regulator, and the pneumatic tubing as well as the required mounting components.

## **Heavy-duty and easy-to-operate**

With this equipment, the driver simply pushes the lever on the valve downward and the two cylinders pull the safety bars below the forklift away. This increases safety for the driver and relieves him of a troublesome chore. Once the truck-mounted forklift is loaded, the pneumatics return the safety bars back to their original position. The components are tailored to the special requirements of harsh truck applications. They are resistant to wind and weather, splash water, and the vibrations and shocks occurring during daily operation. This is where pneumatics can truly shine as a robust, easy-to-operate technology.



Thanks to system solutions from AVENTICS, drivers no longer have to climb underneath the forklifts and manually remove the safety bars

#### One order number for the entire material kit

AVENTICS has created a single material number for each material kit. This simplifies business processes, logistics, and customer production processes. The Laatzen plant in Germany sends the components to Boxtel, in the Netherlands. There, they are preassembled into ready-to-install modules by the Dutch employees and then delivered to the customer.

As of this year, AVENTICS also collaborates with Quickstra and De Kruif, two major dealers and maintenance specialists for truck-mounted forklifts in the Netherlands, because the pneumatically automated safety system is also suitable for retrofitting. In the Netherlands alone, over 3,000 truck-mounted forklifts are currently in use. And the country is just a stone's throw away from the rest of Europe. 🇳🇱



Truck-mounted forklifts attached at the rear of a truck speed up loading and unloading

# NORDICS: STRONGHOLD OF THE NORTH

Once Mecman, now AVENTICS




Photo: iStock

**Based on the company's history, Scandinavia is one of AVENTICS' home markets. As a partner to industries with international success, our pneumatics specialists offer expertise and experience to provide tailored solutions.**

The roots are deep, dating back to over 70 years ago when AB Mecman – a predecessor of AVENTICS – was founded in Stockholm. Mecman quickly established itself as a pneumatics supplier for trucks and for production system automation. Here, AVENTICS continues to be the market leader in Sweden and collaborates closely with major manufacturers in developing and testing pneumatics systems in commercial vehicles.

Sixty-five employees in Sweden and the neighboring Scandinavian countries of Denmark, Finland, and Norway provide extensive support to customers and dealers. In Norway, AVENTICS gained a foothold years ago in the offshore industry for natural gas and oil production, and works with the shipyards and OEMs to develop custom solutions tailored to the rough environmental conditions on the high seas. The other end of the spectrum features solutions for the food and pharmaceutical industries. AVENTICS components and solutions meet the

particularly high demands for a hygienic design and corrosion resistance, even after repeated cleaning cycles with aggressive cleaning chemicals.

In addition to a dense dealer network, the Scandinavian pneumatics specialists also support machine manufacturers and major end users directly. "Our advantage is our decades of expertise in pneumatics and pneumatic applications," states Ulf Helles, Director Nordics at AVENTICS. "Furthermore, with our products, we meet the requirements Scandinavian companies place on the quality and reliability of all components." 



# "EXPERTISE IS THE KEY TO SUCCESS"

Interview with Ulf Helles, Director AVENTICS Nordics

*"Primarily, the customers expect us to solve problems together with them."*

Ulf Helles,  
Director AVENTICS Nordics



## How is business in the Nordics going?

**Ulf Helles:** Well! Naturally we are currently feeling the difficult times that the offshore industry is experiencing in Norway. But our other target industries, Commercial Vehicles, Industrial Automation, Life Sciences, Railway Technologies, and Energy and Food & Beverage are going very well. In Scandinavia, we have the highest market share within our global organization.

## How do you manage that?

**Ulf Helles:** We held very intensive interviews with current and potential customers to find out what they expect of AVENTICS and whether we can better meet these requirements. Of course, our high-quality products help. But primarily, the customers expect us to solve problems together with them. Here, we are well positioned: Twelve application engineers are in constant contact with our customers and collaborate with them on projects. They are familiar with the exact requirements and have an extremely high level of knowledge on pneumatics. Their expertise is the key to our success.


## Did the transition to AVENTICS upset the customers?

**Ulf Helles:** (laughs) No, quite the opposite. The name Mecman, under which we were founded in 1945, had an excellent reputation in Scandinavia for over 40 years, and that's not something you just forget. Customers keep telling me that we are now as flexible as we used to be and make decisions much quicker. But these past achievements aren't enough. A new generation of engineers that are no longer familiar with Mecman are here – and they have a strong digital focus. Our online tools for designing and configuring pneumatics systems are very well received and our customers really do use them extensively.

## Which products are especially in customer demand?

**Ulf Helles:** The new AV valve system is the fastest growing product in our history. It has really struck a chord with customers. But it isn't just the products that matter. We have become more flexible and faster in all aspects. There is a figure proving this: Our delivery performance has increased to 96 percent – and we want to improve it even more.

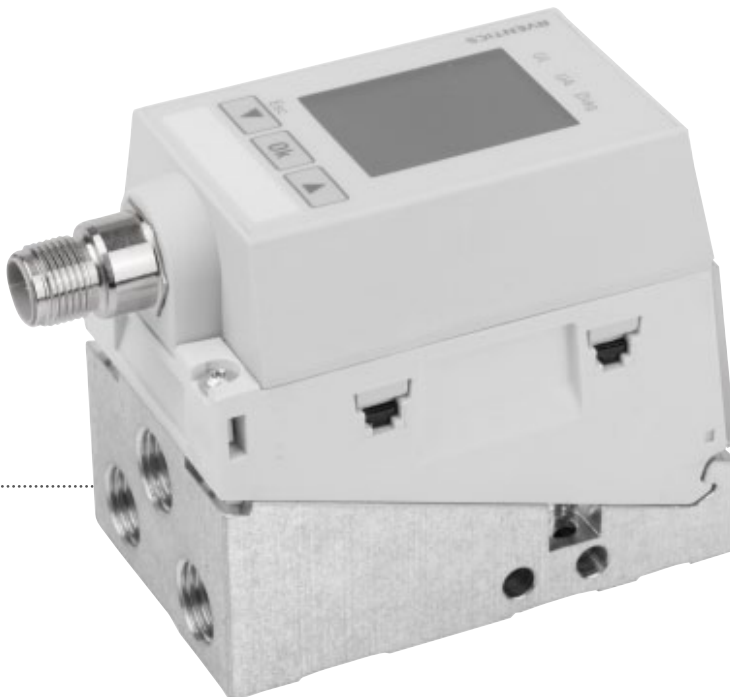
## What is most important in the Nordics?

**Ulf Helles:** Compared to China or the Americas, Scandinavia is relatively small – the customers are wired differently in every country. This also has to do with the fact that very different industries are concentrated here. Our headquarters are in Sweden, but we also have local Sales staff in Norway, Finland, and Denmark. This is very important because it's how we connect our local contacts to our regional and global pneumatics expertise. 

# MORE FLEXIBILITY THANKS TO THE DISPLAY **EV03**

The display on the new electropneumatic pressure regulator creates more freedoms in commissioning, application, and even storage. As AV-EP, it can be optimally integrated into the AV family architecture or used as an EV03 single station regulator. Both variants highlight the advantages of the AV concept: compact and lightweight, easy to assemble, and optimized flow resistances. And the externally piloted EP can also be flexibly integrated into the control, as it is available in both multipole and fieldbus versions.

The regulator dynamics, regulator precision, and pressure range can be changed via the display or the fieldbus. This results in advantages in procurement and storage, as fewer different components are needed. Depending on the configuration, the maximum flow ranges up to 1,100 l/min. ⓘ




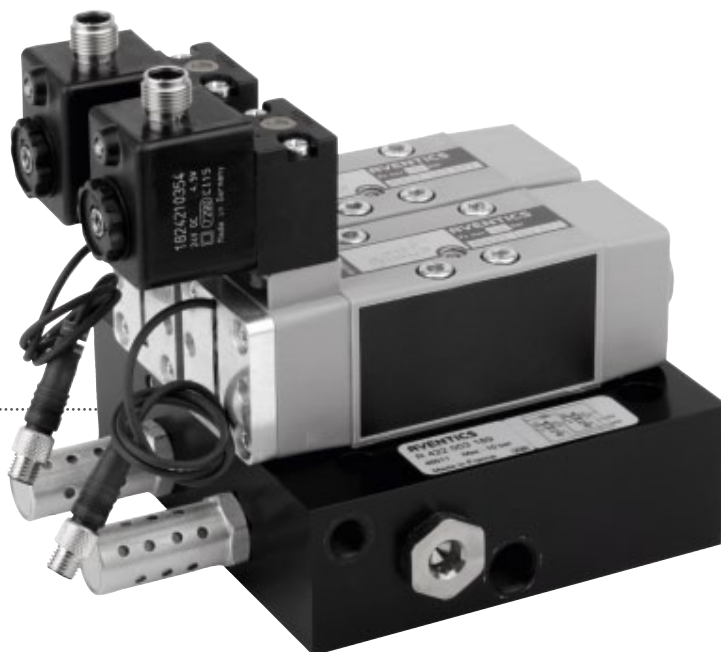
FLOW UP TO  
**1,100**  
l/min

# INCREASED SAFETY WITH PROVEN TECHNOLOGY: SEEING DOUBLES

## IS12-PD

With the redundant IS12-PD safety valve, AVENTICS offers an assembly-friendly solution for reliable, controlled pressurization and exhaust of pneumatic cylinders. Two valves from the proven IS12-PD valve series with position detection are used per assembly.

The valve increases the diagnostic coverage of a pneumatic control to 99 percent. It can be used in categories 3 and 4 (ISO 13849) to achieve a performance level of up to PL = e for the control system. The safety valve offers a maximum exhaust rate of 1,000 l/min, and corresponds to ISO 5599 size 1. 



MAX.  
EXHAUST RATE  
**1,000**  
l/min



# “OUR CUSTOMERS EXPECT SERVICE”

Interview with Paul Grinham, Managing Director  
at our AVENTICS Sales Partner  
Total Pneumatic Solutions in New Zealand

---

Most people think that the landscape shots in “The Lord of the Rings” were generated digitally. Wrong: the film was shot entirely in New Zealand. Aside from the breathtaking nature, the country also has a lot to offer economically. New Zealand is among the top 25 countries in terms of gross national product per capita. Paul Grinham, Managing Director at AVENTICS sales partner Total Pneumatic Solutions, explains why New Zealand is an attractive automation market.

**What is the pneumatics market like in New Zealand?**

**Paul Grinham:** In New Zealand, pneumatics are used by many different industries. The largest user is probably the Food & Beverage industry. Fonterra is one of the world's biggest milk-processing companies. We also produce premium wines, package meat, and have a very successful fish industry. These end customers have a long-term demand for hygienic and corrosion-resistant actuators and valves. Throughout the whole country we also have timber processing plants which use very robust equipment.

*As in the rest of the world, machine safety plays an important role in all industries. Since New Zealand is so far removed from other regions, pneumatics customers prefer repairable products.*

**What do pneumatics customers expect from you?**

**Paul Grinham:** Our customers expect service! Costs are always an issue for most of our customers. But without service from their suppliers they quickly lose the few dollars that they saved when buying, through machine downtime, when they can't fall back on service and support quickly. The customers want to be sure that with a simple phone call, someone is there to help them.

**How long have you been working with AVENTICS?**

**Paul Grinham:** I started working with Bosch Rexroth in May 2002 – so for more than 13 years. Total Pneumatic Solutions took up business operations on November 1, 2007. For the last eight years, we have been the sole representative in New Zealand, first for Bosch Rexroth Pneumatics and now for AVENTICS.

**Why is it easy to do business with AVENTICS?**

**Paul Grinham:** The AVENTICS product portfolio meets all requirements. Our contacts in Germany, France, and Sweden are extremely valuable. Whenever I need advice, regardless of what problem I approach them with, specialists for this topic quickly help me.

**What differentiates your company from the competition?**

**Paul Grinham:** I think we are successful because we listen to our customers and we give them what they want, when they want it – in short: good old-fashioned customer service. I never make promises I can't deliver. I always tell my customers my honest opinion – even if at first the customer doesn't want to hear it. I never sell just to close a deal. 🧐





"I think we are successful because we listen to our customers and we give them what they want, when they want it – in short: good old-fashioned customer service."

Paul Grinham,  
Managing Director, Total Pneumatic Solutions





# ACCESSIBLE, ENERGY-EFFICIENT TRAINS IN LONDON

Electronic leveling valves from AVENTICS



Photo: Siemens

**Over 28,000 people use the train network in Greater London during the morning rush hour to avoid impenetrable traffic. To allow even more people to fall back on the train, transport operator Thameslink has placed an order for 1,140 regional cars from the Desiro City series, developed specifically for this purpose, with train manufacturer Siemens Mobility in Germany. At the start: a tailored electronic leveling valve from AVENTICS.**

In its advanced Desiro City vehicle family, Siemens relies on modern electrification of the air suspension function. The new generation enables quicker boarding and exiting at every station. With electronically controlled air suspension, the vehicle boarding height is adapted to every platform height. Furthermore, energy savings of up to 50% of the air consumption are possible. This decreases the burden on the environment and lowers operating costs significantly. Instead of train suspension based purely on mechanical control, the engineers integrated an electronic leveling valve to control the air suspension. It consists of one proportional and two switching valves, as well as control electronics with sensors.

For the Desiro City, AVENTICS engineers in Austria and Germany developed a customer-specific product. It communicates with the train's control system via the PROFINET fieldbus protocol. The assembly was delivered to the Siemens plant in Graz ready-to-install, and is mounted directly to the vehicle body. Compared with the previously used, purely mechanical solutions, electropneumatics offers a range of advantages over the entire life cycle.

## **Simple commissioning and intelligent operation**

They simplify commissioning after assembly and demand-based operation substantially. Via web services, technicians set the parameters with a laptop and read out diagnostic messages.

*"We tailor the assembly hardware and software precisely to the customer requirements and provide custom solutions."*

Roland Hatzenbichler,  
Sales Engineer at AVENTICS Austria



With its integrated pressure sensor, the assembly is also capable of precisely measuring the transport load. The train control forwards these values to a platform information system, which shows passengers which wagons are already completely full and which still have space. If passengers change their wagon during the journey, changing the load, the electronics request air pressure based on the demand in order to keep the distance between the bogie at an optimal level.


#### **Demand-based control saves up to €150 a year and valve**

A special feature: Unlike in the mechanically controlled pneumatic suspension systems that were standard up to now, practically no compressed air is required during travel – except in the event of load changes. This results in a significant decrease in train power consumption and lowers operating costs. According to internal calculations of AVENTICS, the operator saves €100-€150 on compressed air per year and valve.

It is planned to further reduce maintenance requirements with an option to change parameters. Wheelsets are regularly twisted off to remove minor damage. As a result, and due to wear, the wheel diameter changes. With other systems, the air suspension has to be readjusted mechanically in an elaborate process. With the AVENTICS assembly, the new

diameter simply will only have to be entered via the fieldbus. This reduces both the required time and expenses.

The entire assembly corresponds to protection class IP66 and is designed for an operating temperature range of -40 to +50 degrees Celsius. In rail technology, reliability and availability are extremely important. Even in the event of valve power failure, the trains can continue their journeys. Siemens gave special attention to the validation of the software functions and the interaction of the train control as the master with the air suspension control as the slave.

The first new Desiro City has been in test operation since summer 2015 and has proven successful. This year, delivery of the series will begin. Good news for the commuters in Greater London. 

## **SIEMENS MOBILITY DIVISION**

The Mobility division offers modern, networked, and IT-based mobility solutions with five business units, Mobility Management, Turnkey Projects & Electrification, Mainline Transport, Urban Transport, and Customer Services. Among other things, the offer includes the full range of vehicles for rail traffic: regional, intercity, and high-speed trains, metro cars, streetcars, and light rail, passenger coaches, driverless vehicles, and locomotives.

#### **► More information**

[www.mobility.siemens.com](http://www.mobility.siemens.com)






Photo: iStock

# RAILWAY: PNEUMATICS ENSURING MANY SMALL, BUT EFFICIENT OPPORTUNITIES FOR IMPROVEMENT

Interview with Thomas Alm, Director Railway at AVENTICS





*"In the future, China will build every second train in the world."*

Thomas Alm,  
Director Railway at AVENTICS

**AVENTICS has been active in the railway industry for over a hundred years. In an interview, Thomas Alm, Director Railway at AVENTICS, describes which trends shape the industry.**

**When was the last time you took the train?**

**Thomas Alm:** I take the train from Sweden to Denmark several times a week. Often, taking the train is the most effective method of movement, be it in Sweden, Germany, Switzerland, France, or China. Trains are very important to me – I worked for Bombardier for eleven years and at two other companies in the system supplier industry for twelve more years. My primary concerns there were brake and compressed air systems.

**What are the most important challenges in the railway industry today?**


**Thomas Alm:** Public urban and long-distance traffic is gaining importance thanks to the ever growing population density in large cities and the increasing percentage of older population. Trains are a very energy-efficient, environmentally

friendly approach to covering longer transport routes. The major challenge is in reducing overall operating costs for the complete railway transport system to be able to compete with road traffic. More and more manufacturers are taking new paths and searching for innovative solutions. They rely on compact, lightweight, uncomplicated, and robust system components to realize pneumatic functions in their trains. Pneumatics are ideal both for controls and actuation, for example in brakes and suspension.

**Which markets are key for railway business?**

**Thomas Alm:** Germany leads for technology, and China for volume. Last year, I visited a majority of the top 40 system manufacturers, 15 of them are Chinese companies. They are currently working on expanding their know-how in the area of railway vehicles and system components. This is a game changer, since in the future, China will represent half of the global production of trains. They will require locally built material for their future trains – Chinese material for Chinese trains. Their next step is to export and compete with the big international companies on the western markets.

**What are your focuses?**

**Thomas Alm:** One of my main tasks is to consolidate our existing product portfolio and guide the products through our internal qualification processes. With our roots in Mannesmann Rexroth, Mecman, and WABCO, we already have a wide range of offers that we will now expand. Furthermore, we are working on a five-year product and market plan which our customers can use to plan. This is less about technological revolutions, and more about many small, but efficient improvements thanks to pneumatics. 

# PREVIEW OF TRADE SHOWS IN 2016

Presenting AVENTICS

## Trade shows: Europe

### 4) Elmia Automation, Jönköping (Sweden)

May 10 - 13, 2016

Automation

### 1) CFIA, Rennes (France)

March 8 - 10, 2016

Food technology, packaging technology

### 6) SINDEX, Bern (Switzerland)

September 6 - 8, 2016

Automation

### 5) SPS Italia, Parma (Italy)

May 24 - 26, 2016

Automation

### 8) Automatik, Brøndby (Denmark)

September 6 - 8, 2016

Automation

### 10.) WOTS, Utrecht (Netherlands)

October 4-7, 2016

Automation

### 16) METS TRADE, Amsterdam (Netherlands)

November 15 - 17, 2016

Marine technology

## Trade shows: USA

### 2) Mid-America Trucking, Louisville (USA)

March 31 - April 2, 2016

Commercial vehicles

### 13) Packexpo, Chicago (USA)

November 6 - 9, 2016

Packaging technology

### 14) Automation Fair, Atlanta (USA)

November 9 - 10, 2016

Automation

## Trade shows: China

### 12.) PTC Asia, Shanghai (China)

November 1 - 04, 2016

Fluid technology

## Trade shows: Germany

### 3) Hannover Messe, Hanover (Germany)

April 25 - 29, 2016

Automation

### 7) SMM, Hamburg (Germany)

September 6 - 09, 2016

Marine technology

### 9) Innотrans, Berlin (Germany)

September 20 - 23, 2016

Transport engineering

### 11) Motek, Stuttgart (Germany)

October 10 - 13, 2016

Assembly, automation

### 15) Compamed, Düsseldorf (Germany)

November 14 - 17, 2016

Medical engineering

---

## SUBSCRIPTION

You would like to receive the **A Mag** customer magazine regularly by mail? We would be happy to supply you with the latest issue. Please send an e-mail with your address to **amag@aventics.com**

## IMPRINT

**Publisher:** AVENTICS GmbH  
Ulmer Straße 4, 30880 Laatzen, Germany

**Responsible according to the press law:** Dr. Peter Saffe  
Tel. +49 511 2136-137  
**Editor in chief:** Sabine André

Tel. +49 511 2136-168  
sabine.andre@aventics.com

**Deputy & editorial staff:** Meike Müller-Wiegand  
Tel. +49 511 2136-862  
meike.mueller-wiegand@aventics.com

**Editorial staff:** Torsten Kirchmann  
Eins A Kommunikation

**Photos:** If not labeled: AVENTICS archive  
**Layout:** Windrich & Sörgel,  
Agentur für Markenkommunikation  
**Print:** Druckhaus Pinkvoss

**Suggestions, praise, and criticism:**  
amag@aventics.com



**AVENTICS GmbH**  
Ulmer Straße 4  
30880 Laatzen, Germany  
[www.aventics.com](http://www.aventics.com)  
[info@aventics.com](mailto:info@aventics.com)



Follow us:

