



EXPECT
STORIES FROM THE
AVK WORLD



INVEST IN KNOWLEDGE – AND WORK SMART, NOT HARD

Once again, we have led 45 new water ambassadors out into the world, inspired by all the latest trends and technologies regarding efficient water management. A bright group of young people who will hopefully, help make a difference in the water sector in their home countries. One thing is certain; they are critically needed to ensure a good and stable water infrastructure, both in terms of securing drinking water supply, and to obtain an efficient system for managing wastewater and the resources contained in wastewater.

"Water is undervalued, underfunded, and poorly maintained."

This Statement is not only true in developing countries. Even here in Europe, massive investment in water infrastructure is needed over the next few years. Not only direct investment in optimisation, but also investment in securing the needed labour, and in knowledge.

We try to cover the "knowledge" part in our Advanced Water Cycle Management Course, which is a two-week, intensive knowledge upgrade hosted every August here in Denmark. But that is merely a drop in the ocean. Therefore, we are working on a scalable structure, so the course can be hosted in other countries in the future.

The world is becoming increasingly tense, and focus is shifted heavily on security. This also means security around water, naturally, as it is a critical part of infrastructure. But how do you deal with a shortage of labour, where the water sector fights on an equal footing with all other sectors for the same labour?

My suggestion would be to replace some of the needed manpower with automation. The solutions are already here, and all other sectors, especially the private one, have long learned to automate. But the water sector is falling behind, especially regarding supply of drinking water. And, again, this does not only apply to developing countries.

AVK Smart Water has already solved manpower-saving tasks for several water utilities both in Denmark and Europe. In this magazine, you will be able to read about one of these, and about the many benefits from applying automation.

Best wishes, and enjoy reading,
Michael Ramlau-Hansen

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Content

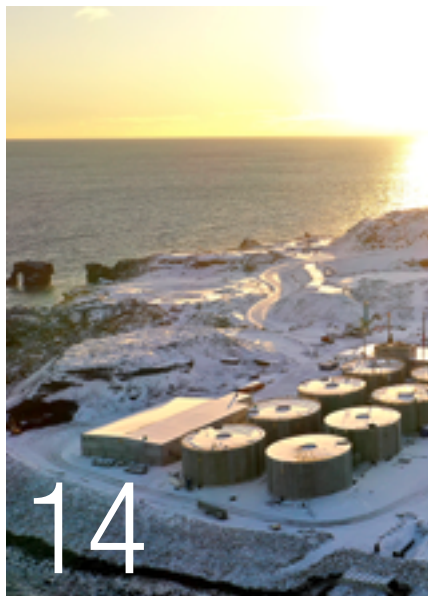
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Frontpage picture

AVK Series 879 diaphragm automatic control valves undergo meticulous quality control and performance test to ensure maximum reliability and functionality. Read more on page 8.



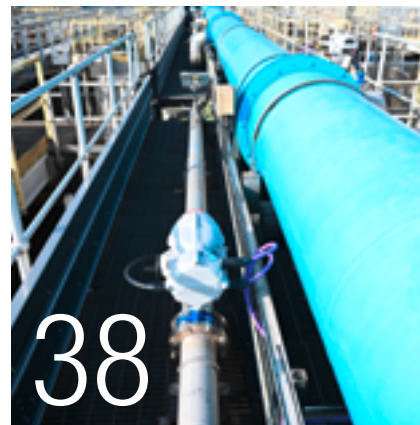
14

Innovative aquaculture, using renewable energy, located in the most beautiful location in Iceland.

To meet the automation requirements, Noria Conception Hydraulique recommended the use of AVK pneumatic knife gate valves.



16



38

Tai Po Sewage Treatment Works is upgrading its aeration tanks with over 100 AVK Series 76 butterfly valves.

CONTENT

- | | |
|--|--|
| <p>4 AVK strengthens fire protection in a key datacenter</p> <p>5 State-of-the-art wastewater treatment plant ensures energy-optimised and efficient operation</p> <p>8 AVK Series 879 diaphragm automatic control valves</p> <p>10 Depths of precision: Underwater engineering at Queen Mother Reservoir</p> <p>13 New Environmental Product Declarations (EPD)</p> <p>14 Innovative land-based salmon farming strengthens Icelandic aquaculture</p> <p>16 New wastewater treatment plant: An automated solution with AVK valves</p> <p>19 PE-tailed gate valves selected for prestigious UK government new-build</p> <p>20 40 years of commitment in Saudi Arabia</p> <p>23 Infrastructure under control: The operational core of Gaia</p> <p>24 Learning, sharing, and shaping the future of water management</p> | <p>27 AVK GUMMI is now ISO 50001 certified</p> <p>28 A sustainable chapter of global innovation and localised service</p> <p>30 Life Science – when safety, high purity, and sterility is paramount</p> <p>32 Background story – AVK Gummi A/S 50th anniversary</p> <p>34 PE tailed gate valves recommended for housing project</p> <p>36 Ensuring reliable wastewater management in Hong Kong</p> <p>38 Commitment to sustainability: AVK Brasil's environmental actions</p> <p>40 Annan Water Resources Center</p> <p>43 AVK has acquired Frese Metal- og Stålstøberi A/S</p> <p>44 Powering water transmission with precision</p> <p>46 Our attitude is what makes us different</p> |
|--|--|

AVK STRENGTHENS FIRE PROTECTION IN A KEY DATACENTER

SPAIN

AVK's quality, reliability and compliance have been key factors in the selection of its solutions to ensure the operational safety of a critical infrastructure.

*By Abigail Izquierdo Torres,
Technical Office,
AVK Válvulas S.A.*

In today's context, where data security is as vital as the physical protection of the infrastructures that house it, having reliable fire protection systems is a strategic priority. A clear example of this is the recent collaboration between AVK Válvulas and a prominent datacenter located in Algete, Madrid, which has relied on our expertise and certified products to strengthen their fire protection system.

The facility, considered critical due to its role in managing and storing high-value digital information, demands the highest levels of availability and security. In the setting, the hydrants and components supplied by AVK are a fundamental part of the emergency system, designed to respond quickly and effectively to any eventuality.

Technical supply for high-demand infrastructure

The provided solution includes a selection of certified equipment tailored to the specific needs of the project:

- 57 AWWA gate valves with UL/FM certification, Series 45/59
- 12 telescopic extension spindles, Series 04
- 12 surface boxes, Series 80/42
- 16 dry barrel AWWA hydrants with UL/FM certification, Series 27

All supplied components comply with strict national and international standards, ensuring reliable performance in critical situations and long-term maintenance safety.

A trusted partner to protect what matters most

This project marks another step in AVK Válvulas consolidation as a strategic supplier in the field of critical infrastructure. Our ability to adapt to the most demanding technical requirements, combined with the proven quality of our solutions, makes us a trusted partner for companies operating in highly regulated sectors where there is no room for error.

At AVK Válvulas, we remain committed to innovation, technical excellence, and close collaboration with our clients — delivering robust solutions that protect what truly matters.

STATE-OF-THE-ART WASTEWATER TREATMENT PLANT ENSURES ENERGY- OPTIMISED AND EFFICIENT OPERATION

DENMARK

The Danish utility Assens Forsyning has established a brand new wastewater treatment plant that centralises eight existing plants, with a focus on reliability and efficiency integrated into all phases. The ambition is to be at the forefront of both technology and environmental requirements.

*By Charlotte Brønsted Rasmussen,
Content Specialist,
AVK International A/S*

*&
Martin Munk Pedersen,
General Manager,
Vatech 2000 ApS*

When discussing future water supply and wastewater treatment, the focus is often on efficient operation, flexibility and green transition. This is also the case in Assens where they have built a new wastewater treatment plant from scratch – designed to handle future requirements in terms of capacity, environmental considerations and digital technology.

Centralisation for 42,000 consumers

The new wastewater treatment plant will consolidate treatment from eight previous plants and serve the entire supply area, which has approximately 42,000 consumers. The merger requires new piping, but in many places, the old piping was already worn out and in need of renovation. In addition, several plants and pipes were undersized. So, something had to be done.





Flexible and future-proof dimensioning of the treatment plant

The centralisation allows for significant operational optimisations and ensures compliance with the revised 2025 EU Urban Wastewater Treatment Directive – including the requirement for energy-neutral operation and removal of environmentally hazardous substances from the wastewater, for all plants with a capacity above 10,000 PE.

In addition, rainwater and wastewater can be kept separate with the new pipe system, so that rainwater is not pumped and treated as wastewater, which saves resources.

It is a major, long-term project. The new plant is dimensioned to handle up to 1,080 m³ of wastewater per hour, but once all eight previous plants have been disconnected and all wastewater is directed to the new plant, the volume is expected to be approximately 600 m³ per hour. This flexibility is an important part of the approach focusing on future-proof operation and reliability.

Reliability at every stage

Centralisation of wastewater treatment means increased requirements for operational reliability. Therefore, the new plant is built with redundancy in all critical components: tanks, pipes, pumps and electrical installations. This ensures continuous operation and reduces the

risk of nuisance in the event of breakdowns or during maintenance.

Sensors and a system to control, regulate and monitor pumps ensure continuous insight into processes at the plant and enable remote monitoring and real-time optimisation.

Energy-neutral operation and optimised purification process

The treatment plant is built using gravity from the inlet through the treatment tanks. This significantly minimises energy consumption, as the wastewater only needs to be actively pumped in a few places, such as when transporting return sludge.

Precise and energy-efficient control of oxygen for aeration

To further optimise energy consumption, the oxygen supply for aeration in the tanks is regulated by sensor-controlled turbo blowers. Fans in four different sizes have been installed, and the most energy-efficient fan for the current need is automatically selected. This is further complemented by a knife gate valve with an actuator on each turbo blower, which regulates the air volume from the fan with high precision.

Extraction of energy from wastewater

The complete treatment plant also includes an integrated biogas plant with a digester,

buffer tank and biogas balloon. Here, energy is extracted from the wastewater. Some of the energy is used at the plant, and surplus energy is sent to the heat network as district heating. The new plant follows the climate ambitions of the local municipality and must be energy-neutral no later than 2050. However, by 2024, the plant was already 60% self-sufficient in terms of electricity and heating.

Biological purification in serial process tanks

Not only energy consumption has been optimised at the modern plant – so has the treatment process in the tanks. The biological treatment steps are optimised using a step-feed system with three serial process tanks, as opposed to traditional parallel-connected tanks. Technology distributes the wastewater to the three tanks according to capacity. Some of the wastewater flows through one tank, some through two and some through all three. Each stage (tank) has the same effect as a treatment stage in a plant with parallel-connected tanks. This means that the wastewater is often treated more thoroughly using the step-feed system. And it results in much lower values in the treated water discharged from the plant.

Working environment and community involvement

The working environment is a high priority at the new plant as well. All pumps are mounted on

AVK valves delivered to the project

- Knife gate valves with LINAK linear actuator, double-acting pneumatic actuator or handwheel, 152 pcs. DN65-350
- Ball check valves, 30+ pcs. DN80-250
- Gate valve, 1 pcs. DN700
- Butterfly valves

The valves were supplied by Vatech 2000, who also supplied dampers with AUMA actuator Ø500-800 for the project.

rails for easy access during maintenance and repairs, and most of the plant is equipped with crane coverage. Additionally, there is plenty of space around most installations.

It is important for the utility to involve the local community. Therefore, the plant buildings feature large windows, communication boards around the plant area and a publicly accessible roof terrace on one of the buildings, from where there is a view of both the biogas plant and the biological treatment tanks. Combined with a school service and laboratory facilities in the administration building, this is an important step toward increasing awareness of our shared water resources.

AVK knife gate valves

Knife gate valves are designed mainly for on-off and isolation services in systems with high content of suspended solids. They can withstand even the harshest environments and are particularly advantageous for handling sludge as well as viscous, corrosive and abrasive media.

We offer knife gate valves with lever, handwheel, pneumatic actuator, ISO top flange for actuator or complete with electric or pneumatic actuator.



AVK SERIES 879 DIAPHRAGM AUTOMATIC CONTROL VALVES

ITALY

Versatile performance with a custom-designed hydraulic circuit for every application.

*By Irene Schiavon,
Digital Content Creator,
AC.MO S.r.l*

Optimizing pressure and flow

AVK Series 879 Diaphragm Automatic control valves ensure pressure management in the supply network and enable effective pressure and flow regulation.

By optimizing pressure and flow within the system, AVK Series 879 Diaphragm Automatic Control Valves provide a lot of advantages such as helping minimize water loss from leaks, lowering the risk of water hammer and pipe failures and cutting maintenance costs thanks to the extended lifespan of the network infrastructure.

Tailored design for every application

The benefit of these valves lies in their adaptability to a broad spectrum of applications, achieved through customisable pilot circuits that define each valve's specific function.

A comprehensive variety of pilot options, accessories, and configuration choices enables the creation of fully customised valve solutions. This modular approach allows for the development of purpose-built valves, precisely



engineered to meet unique customer needs and ensure optimal hydraulic system performance.

Versatile, multi-function performance

Thanks to their flexible design with interchangeable components, these valves offer exceptional versatility, allowing the pilot configuration to be easily modified for various or combined applications. For this reason, their distinguishing feature also lies in their ability to perform multiple functions simultaneously, all without replacing the valves themselves.

Precision assembly and lasting reliability

In AC.MO, every day we are dedicated to the assembly of a wide variety of diaphragm automatic control valve configurations. Once assembled with precision, each valve and their hydraulic circuit undergoes meticulous quality control and performance test to ensure maximum reliability and functionality.

AVK Series 879 Diaphragm Automatic control valves are a reliable solution capable of aligning to system needs, ensuring precise regulation, easy maintenance, and long-lasting performance.



DEPTHS OF PRECISION: UNDERWATER ENGINEERING AT QUEEN MOTHER RESERVOIR

UK

Teamwork, skills and coordination were key enablers in facilitating the underwater penstock replacement at the Queen Mother Reservoir. A fascinating project that required meticulous planning.

By John Batty,
Founder at Bluejohn Marketing

&
Harriet Watson,
Marketing Executive,
Glenfield Invicta

Just four miles west of Heathrow Airport, the Queen Mother Reservoir stretches across just about 2 km² – a massive inland body of water forming a critical part of London's drinking water infrastructure. Inaugurated in 1976 and operated by Thames Water, the reservoir is constructed from compacted London Clay core embankments, drawing water from the River Thames through tunnels located 20 metres below ground level.

On the surface, it is a calm and stable environment. But when a vital piece of submerged infrastructure – a 3.6m x 1.8m draw-off penstock – failed at a depth of 24 metres, the solution required precision engineering, underwater operations, and a meticulous project plan.

The problem below

During an engineering inspection in 2023, the lowest of the reservoir's ten penstocks – mounted on the walls of the outlet tower – was found to have failed in the closed position. These penstocks are not just structural features; they play an essential role in regulating water levels and enabling emergency drawdown. Accessing the failed unit presented a formidable challenge.

"Emptying the reservoir – which holds around 37 million metres³ of water – simply wasn't an option," explains Ken Ottley, Glenfield Invicta's Engineering Services Manager for Dams, Reservoirs and Hydropower. *"It was clear that the work would have to be carried out by divers, and that meant we needed a strategy that engineered out as much risk as possible."*

From survey to commissioning

The project began in August 2023, with Glenfield Invicta commissioned to survey the submerged penstock and develop a viable

solution for its safe removal and replacement. A deep-water survey was conducted to map the existing penstock, frame, and operating components. That data was then used to create a detailed 3D model, allowing engineers and divers to plan and visualise each step of the operation.

To de-risk the final installation, Ottley developed an approach that simplified the most critical stage of the work: alignment and fixing. His solution involved bolting a custom-designed backplate directly to the tower wall once the old penstock was removed. The new penstock could then be securely fastened to the backplate, removing the need for precise underwater alignment under challenging visibility and physical constraints.

"Given the restricted movement in diving suits and helmets, simplicity was paramount. The backplate allowed the divers to position and fix the new unit without spending excessive time or making complex adjustments at depth," Ottley adds.



Before tackling the 24m-deep penstock, the team conducted a trial installation on a similar penstock located just 6 metres below the surface. This dry run allowed them to test the work pontoon, lifting frame, and underwater cutting and drilling procedures, giving the client confidence to proceed with the full operation.

Installation and execution

When the final replacement began, the reservoir level was lowered by 10 metres to improve dive conditions. At 14 metres depth, divers could safely work for 98 minutes at a time. Had the full depth of 24 metres been required, dive time would have been limited to just 29 minutes – significantly increasing both risk and project duration.

The removal of the old penstock involved precision cutting using thermal lances, a process monitored in real time from the surface.

“Watching on the monitors as the divers worked with thermal lances to remove the penstock was incredible. It was a true demonstration of teamwork, skill, and coordination,” says Ottley.

Once the original penstock was removed, the replacement unit – supplied by RRR (Treble R) of Redditch – was installed using the backplate system. While the existing operating gear and refurbished spindles were retained, the actuators were upgraded to the latest Rotork IQ models, offering greater reliability and remote operation capability.

Final commissioning of the new equipment was completed in October 2024, with full documentation provided.

A model of collaborative engineering

This project stands as a prime example of Glenfield Invicta's ability to deliver complex, high-risk infrastructure solutions through innovation, collaboration, and technical expertise.

“I was very fortunate to be part of such a fascinating project and to work alongside such a committed team of engineers and divers. The success of the installation speaks volumes about the planning and professionalism involved,” concludes Ottley.



NEW ENVIRONMENTAL PRODUCT DECLARATIONS (EPD)

DENMARK

*By Lene Mark,
Head of Marketing, Continental Europe,
AVK International A/S*

In 2023, AVK International published our first EPD for standard gate valves, followed by EPDs for gate valves with PE ends and for service connection valves. The latest EPD for double eccentric butterfly valves has just been published in July 2025, and the next for Supa Maxi™ couplings is coming up, taking us a step further on our journey of documenting the environmental impact of our products.

Our EPDs are verified by third party and are published by EPD International and EPD Hub.

What is EPD and GWP?

An Environmental Product Declaration (EPD) evaluates the environmental impact based on a large variety of indicators such as Global Warming Potential, ozone depletion, acidification potential, water consumption and others. Our EPDs declare the Global Warming Potential (GWP) in kg CO₂ equivalent calculated for the phases A1-A3 (cradle to gate).

Available from our product finder

The EPDs are found under downloads of each product in the product finder. The GWP per kilo valve is multiplied by the theoretical weight of the valve and these values are stated in the datasheets with an explanation underneath.



INNOVATIVE LAND-BASED SALMON FARMING STRENGTHENS ICELANDIC AQUACULTURE

ICELAND

Laxey, a developing company in Icelandic aquaculture, is establishing a groundbreaking land-based salmon farm on the Westman Islands with ambitious plans to produce 32,000 tonnes of salmon annually (LWE, Live Weight Equivalent).

*By Charlotte Brønsted Rasmussen,
Content Specialist,
AVK International A/S*

*&
Jesper Flarup,
Markedsdirektør,
AVK Danmark A/S*

Advantages of land-based fish farming

Land-based fish farms, located in tanks or ponds built on land, offer a fully controlled environment that allows precise management of growth conditions.

Typically, these farms have a lower environmental impact, eliminate the risk of farmed fish and feed escaping into the wild and significantly reduce the risk of disease transfer to wild fish populations. Therefore, they are usually considered more sustainable than marine-based fish farms.



Innovative aquaculture using renewable energy

Combining advanced technology and renewable energy, Laxey is setting a new standard for environmentally friendly aquaculture, also called fish farming. To further support sustainability efforts, Laxey has signed a Green Power Purchase Agreement (PPA) with Landsvirkjun, Iceland's national power company and a leading producer of renewable energy.

A high-tech approach to fish farming

The facility on the Westman Islands uses a hybrid water system in their grow-out facilities, recirculating 65% of its seawater and sourcing the remainder from fresh seawater from boreholes. This innovative design ensures optimal water quality and temperatures for salmon farming and minimises environmental impact.

Laxey has built a state-of-the-art Recirculating Aquaculture System (RAS) smolt facility. After successfully passing through the station, batches are transported to the grow-out site in the post-smolt building. The grow-out site has six grow-out modules each capable of producing 4,500 tonnes of salmon annually (HOG, head on gutted). The project goal is to reach full capacity by 2031, and once fully scaled, it will create more than 100 jobs, strengthening the local economy by introducing an additional pillar of industry that harmonises well with the long-

standing tradition of seafood production in the Westman Islands.

Optimal operations under demanding conditions

Land-based fish farms like Laxey's require robust and reliable infrastructure to maintain precise control over water flow, oxygenation and filtration. Valves are critical to the control of these systems and must meet stringent requirements for durability and corrosion resistance due to their exposure to salt water.

AVK valves are available in materials and configurations suitable for the needs of aquaculture. Corrosion resistant materials like stainless steel and ductile iron with advanced coatings withstand harsh environments. Robust designs ensure durability and reduce downtime in the high-demand systems. AVK valves integrate seamlessly with automated systems for precise monitoring and control, improving operational efficiency. Electrofusion couplers allow for a fully welded pipe system, and

the quality, reliability and flexibility of Fusion couplers ensure strong PE pipe joints.

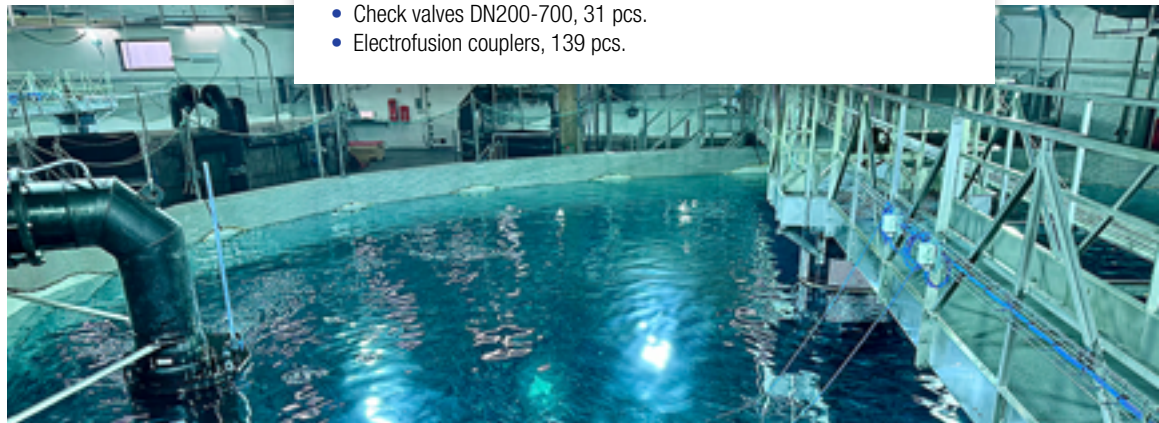
Enhancing aquaculture efficiency and supporting growth

Laxey sets a benchmark in the aquaculture industry, and their commitment to innovation and sustainability aligns perfectly with our dedication to deliver reliable, high-quality solutions. Through our Icelandic distributor Set Pipes, we have supplied valves and fittings for the salmon farm, and we are proud to support projects like this, which not only enhance local economy but also promote environmentally responsible practices in the seafood industry.

FACT

Valves and fittings delivered by AVK

- Knife gate valves DN100-1200 with handwheel, 38 pcs.
- Butterfly valves DN300-900 with handwheel/electric actuator, 143 pcs.
- Gate valves DN300-600 with handwheel, 38 pcs.
- Check valves DN200-700, 31 pcs.
- Electrofusion couplers, 139 pcs.



NEW WASTEWATER TREATMENT PLANT: AN AUTOMATED SOLUTION WITH AVK VALVES

FRANCE

To support the modernisation and expansion of the wastewater network in the district of Saint-André-Treize-Voies (Montréverd), the Terres de Montaigu urban community chose to replace its outdated lagoon-based treatment system – no longer sufficient in terms of treatment capacity – with a more compact and high-performance phyto-purification plant.

*By Ines Graslin,
Marketing Manager,
AVK France S.A.S.*

It was within this context that Noria Conception Hydraulique was selected as works contractor, responsible for the installation, commissioning and supervision of a full set of AVK knife gate valves.

A renewal project focused on automation

The objective of the project was to replace the previous station with a more compact solution, based on a reed bed filtration process (French constructed wetlands), known for its environmental performance. The selected layout includes two stages of filtration, split into 9 and 6 separate beds. This dense layout requires frequent switching between basins – a process usually carried out manually – which is essential for proper filter aeration.

Due to the scale of the infrastructure, Noria Conception Hydraulique proposed a fully automated solution to the customer Terres de Montaigu. This decision directly impacted the design and equipment selection, especially the control valves.

A robust and easy-to-integrate AVK solution

To meet the automation requirements, Noria Conception Hydraulique recommended the use of AVK pneumatic knife gate valves – a choice validated for their reliability, quick operation and robustness.

“Full automation is rare on this type of plant. We proposed this option with pneumatic valves during the tender phase. AVK valves seemed the right fit, both for their performance and ease of integration,” explains Cyril COSSAIS, Project Manager at Noria Conception Hydraulique.

A total of 15 AVK knife gate valves (DN200) were supplied through our distributor partner





LIBAUD AIZENAY. Installed in a buried concrete chamber weighing over 25 tons, these pneumatic valves were selected for their fast actuation, reliability, and proven durability in handling wastewater – key requirements in sanitation applications.

In specific cases such as flood-prone areas, fully enclosed submersible models can also be supplied.

Easy installation and proven reliability

Cyril COSSAIS from Noria Conception Hydraulique highlighted the simplicity and speed of the installation process:

"It's a straightforward product – in the best sense of the term. Easy to install, reliable, and with minimal adjustments – mostly just the end-of-travel settings. A real time-saver."

Since commissioning in early March 2025, the station has been running without any issues.

According to the customer, the installation is delivering full satisfaction:

"We wanted a reliable automation system to manage the treatment beds efficiently and avoid additional operating costs. Since the station was commissioned, the operator hasn't reported any issues. Overall, I'm very satisfied with the installed equipment and how easy it is to use," says Sébastien BOURMAUD, Head of Sanitation for the Terres de Montaigne urban community.

A trusted collaboration

Noria Conception Hydraulique has been working with AVK France for many years, which ensured a seamless collaboration on this project. Thanks to their familiarity with our product ranges, the company was able to propose a tailored technical solution during the bidding phase and carry it through to commissioning. Once again, this installation demonstrates the strength of our collaboration and the adaptability of our solutions to real-world needs.

The knife gate valves installed were manufactured by CYL (an AVK subsidiary based in Spain), a specialized production site dedicated to custom-made gate valve solutions. This European manufacturing ensures both responsiveness and high performance.

More projects are already in development with Noria Conception Hydraulique, including the delivery of a DN400 motorized gate valve. A collaboration that's only set to grow!



PE-TAILED GATE VALVES SELECTED FOR PRESTIGIOUS UK GOVERNMENT NEW-BUILD

UK

Woodford Plastic Fabrications Ltd is actively looking for opportunities to use the AVK Series 36.

*By Emily Davies,
Marketing Manager,
AVK UK Ltd*

Woodford Plastic Fabrications Ltd has installed an SDR11 polyethylene sprinkler main on a major UK Government new build in the Oxford area. The critical role of the sprinkler main in building safety, and the need to ensure there were no leaks, meant that the AVK UK's PE-Tailed Gate Valve (Series 36) was the natural choice.

Brian Whitehead, co-founder of Woodford and Joint Managing Director, has over twenty years' experience in polyethylene fabrications, machining and contracting:

"In my experience, when leaks occur on networks they tend to be at points where bolted flanges and gaskets have been used. In some cases, this can simply be because no support has been placed under the valve leading to stress on the flanged joint and, eventually, a leak path.

On the Oxford project I wanted to ensure the integrity of the sprinkler main by creating a fully-welded system. In over twenty years of installing polyethylene pipe systems, I have never had a joint failure when using butt fusion."

The PE tailed gate valve is suitable for electrofusion and butt fusion, with potential for off-site fabrication /pre-assembled units, as this installation demonstrates.

The AVK UK PE-Tailed Gate Valve is supplied with SDR11 tails. The tails are pressed on to the grooved valve end and locked in place with a steel ring using a process patented by AVK. The connection is sealed with a plastic shrink hose.

Woodford installed 15 AVK UK Gate Valves on the Oxford sprinkler main:

"The valve fabrications were completed offsite, palletised and delivered to site when the team needed them. For Oxford, I welded a reducing spigot and a small spool piece to the AVK

Series 36 PE tails which ensured it was the right diameter and SDR for installation on site. There was a small added cost for the spool piece, but it gave me peace of mind that the work on site would be more straightforward for the installation team."

Brian is a staunch advocate for the AVK UK's PE tailed gate valve (Series 36):
"I first came across the AVK Series 36 several years ago when I installed them on the Manchester City Etihad Stadium build. After the success of the Oxford project, I am actively looking for opportunities to use the AVK Series 36 on other projects."

The Series 36/89 gate valves are made in the UK by AVK.



40 YEARS OF COMMITMENT IN SAUDI ARABIA

In 2025, AVK Saudi Valves Manufacturing Co. Ltd. celebrates 40 years of operations in Saudi Arabia. Over the decades, the company has become a trusted partner for government institutions, engineering firms, and contractors across the Kingdom.

*By Alyona Dolgikh,
Marketing Executive,
AVK Saudi Valves Manufacturing Co. Ltd.*



Since the 1980s, AVK SPMC has contributed to the development of Saudi Arabia's water infrastructure – enhancing its reliability, sustainability, and supporting local manufacturing.

As early as 1990, the company received approval from ARAMCO to supply equipment for all of its facilities. In 2001, AVK became the sole owner of the factory, strengthening its focus on localisation. The manufacturing site in Jeddah has been expanded multiple times (in 2014 and 2020), enabling increased production capacity and a broader product range, including fire hydrants.

Since 2015, the company has been actively investing in the development of young engineering talent in the Kingdom and collaborates with ARAMCO under the IKTVA program. These efforts have been recognised with high acclaim: in 2024, AVK SPMC received three prestigious awards – the Aramco Quality Award, the IKTVA Award, and the Hyundai Supplier Award.

The company has been delivering solutions for municipal networks, main transmission lines, and major national projects.

One of the key projects – ensuring water supply during Hajj

During the Holy Hajj Month, Saudi Arabia's water infrastructure operates at peak capacity to support millions of pilgrims visiting Makkah and the holy sites. Ensuring an uninterrupted water supply becomes a top national priority, reflecting the government's strong commitment to the well-being of visitors and the successful execution of the Hajj season.

Hajj is not only the largest religious gathering but also a major challenge for engineering systems. In conditions where temperatures exceed 40°C and pressure differences occur in pipelines due to the mountainous terrain of Makkah, reliable technical solutions, high durability, and equipment resilience are crucial.

AVK SPMC's contribution of supplying high quality products and day-to-day continuous support, which has been appreciated by the end user to ensuring water supply during Hajj, is a clear example of how the company's products perform under critical and high-demand conditions.

As part of the project, valves were supplied for key facilities in Mina, Arafat, and Muzdalifah. The project was implemented in cooperation with the National Water Company of Saudi Arabia and became part of a large-scale program to modernise the water infrastructure.



Archive photo



Archive photo



Supplied equipment:

- Pressure Reducing Valves DN600, DN400
- Gate Valves DN100, DN150, DN400
- Double Eccentric Butterfly Valves DN400, DN600, DN700, DN900

Most of the equipment was manufactured at AVK's Jeddah factory, certified to international standards. Local production not only ensures faster delivery but also aligns with Saudi Vision 2030 - the Kingdom's national strategy to diversify the economy, strengthen local industry, and reduce reliance on imports.

A key priority of Vision 2030 is sustainable water management and the development of modern infrastructure. By localising manufacturing, AVK contributes to this vision through job creation, the development of local engineering expertise, and reliable support for critical water supply and wastewater projects across Saudi Arabia.

Support at every stage

Supplying equipment is just one part of AVK's comprehensive approach. The company's technical team provided:

- Supervision of installation
- Precise calibration of pressure reducing valves
- Testing and commissioning of the equipment

This approach ensured uninterrupted operation of the system during the most critical days.

AVK will continue to invest in the development of local manufacturing, strengthen strategic partnerships, and implement highly reliable solutions that meet the most rigorous standards of Saudi Arabia's water sector.

We believe that engineering is not just about technology – it's about trust built through years of collaboration.



INFRASTRUCTURE UNDER CONTROL: THE OPERATIONAL CORE OF GAIA

ITALY

GAIA is the water company that manages the water services across 45 municipalities in the Tuscany region of Italy, serving a population of approximately 411,000 residents and around 257,798 users. The managed water supply network extends over a total length of approximately 5,729 km.

*By Antonio Allocca,
General Manager,
ASW-ATI*

To ensure real-time monitoring and control of pumping stations, reservoirs and treatment plants, ASW-ATI developed a state-of-the-art SCADA System, including a Control Center and over 200 RTUs.

At the Control Centre, GAIA collects and integrates data, coordinating with the remote monitoring and control systems to route alert signals in the event of malfunctions. The primary goal of the utility is to prevent the emergence of critical issues, avoiding emergencies and service disruptions, ensuring an increasingly the quality of service for the end users.

Smart sensors for a more resilient network

In addition to SCADA Systems, GAIA has embraced new technologies to reduce non-revenue water (NRW) in district metering areas (DMAs), deploying various types of sensors for monitoring and data analysis. As part of this strategy, more than 1,000 VIDI Pressure and VIDI Flow have been installed. Thanks to LoRaWan communication network, they enable monitoring of water network parameters, with an average sampling rate of one reading every 10 minutes.

Georeferenced data and targeted analysis

Thanks to long-range wireless communication technology, the sensors transmit data directly to



the Control Centre, where data are visualised and analysed. These informations are used to plan field activities in order to optimise network management.

In several water districts, pressure reduction groups are also monitored by acquiring upstream and downstream pressure values at PRV valves as well as the flow rate measurement.

Alarms and pre-location: turning prevention into action

The SCADA System and the alarm management system are used by GAIA also to pre-locate water leaks, improving NRW reduction.



VIDI Pressure sensors provide great value for their functional reliability and for their ease of use and compact design, that enable the installation into limited spaces.

GAIA monitoring and alert management system represents an advanced model of intelligent water network control. The integration of infrastructure, cutting-edge technologies, and predictive analysis enables the early detection of issues, improves operational efficiency, and delivers a water service that is increasingly secure, sustainable, and future-ready.

LEARNING, SHARING, AND SHAPING THE **FUTURE OF WATER MANAGEMENT**

DENMARK

The world still needs better knowledge about water management, and about the many existing solutions we have for tackling water-related issues. The Advanced Water Cycle Management course addresses just this, and a fully-booked course was successfully completed last week.

*By Katrine Klejnstrup Larsen Flecha,
PIM Manager, AVK Holding A/S*

Photos: Alma Brinck Røen



Once again, we were excited to again welcome a large group of participants to this year's Water Summer School. On August 11, 45 participants from all over the world gathered at Låsby Kro, all eager to spend the next two weeks getting smarter on water.

At the welcoming introduction, Michael Ramlau-Hansen from AVK emphasised why this course is so very important: *"Water is not just coming out of the tap, it is so much more than that. It is the baseline for everything. And I am very glad to see that we are represented from all over the world. Because water is just not an European problem or an African problem. It is a problem all over the world."*

Bridging the gap between theory and real-world application

During the two-week course, the participants learn about and explore Denmark's holistic approach to the water circle, and get familiar with Danish innovations within water distribution, wastewater management, resource recovery, and water resource management. The course programme is a combination

of classroom teaching and teamwork as well as company and utility visits, networking initiatives and social activities - a mix that many of the participants point out as the key advantage of the course.

Getting to know us and our expertise

August 14, we had the pleasure of welcoming the participants for an afternoon full of fun and learnings within our area of expertise: quality valves, in their many forms and for numerous purposes.

Our Public Affairs Manager, Michael Ramlau-Hansen, introduced the participants to the fundamentals of a valve, what it can be used for, and how our many products make a difference in the world.

There was also time for a scavenger hunt in the showroom at AVK International, to search out some of our products. To equip the participants for the hunt, Product Manager Martin Børsting shared his technical know-how with the participants. The hunt was a great way to spark interest, and it resulted in a lot of good questions from the participants.

After a well-deserved dinner and break, Pia Jacobsen from Water Valley Denmark kicked off the evening's theme: Water Reuse. First, Kristian Brunmark from Aarhus Vand A/S presented Nye, a new local urban district where rainwater is reused for toilets and laundry. Then Søren Nøhr Bak from NIRAS shared how Carlsberg



reuses process water in a closed loop. And finally, Søren Duch Hennings, also from Niras, explained Power-to-X and the need for ultra-clean water.

Besides visiting AVK, the participants also visited the SkyTEM, a global leader in airborne geophysical mapping technology, NIRAS (engineering consultancy), Kamstrup (meters), Grundfos (pumps), as well as different local utilities and treatment plants.

Prepping the world's future water sector

The participants left Låsby on August 24 with their diplomas in hand, ready to go out and influence the water industry in each their part of the world. We are already looking forward to receiving the next round of participants!

Michael Ramlau-Hansen, co-creator of the school, shares:

"This year we have a fantastic team of students and water professionals from all over the world with great spirit and enthusiasm eager to solve water related challenges and problems. Thanks to all involved, I sincerely hope we have inspired to be a water ambassador."



Water friends

The Summer School is a strong partnership between Kamstrup, Grundfos, DHI, Aarhus Vand A/S, NIRAS, I•GIS A/S, WATEC Aarhus University Centre for Water Technology, Water Valley Denmark, Clean, Danida Fellowship Centre and AVK Holding A/S. All of these take part in the course, with each their area of expertise.



Meet Liong Duang Sii

During the course, we have spoken to Liong Duang Sii from the water services supplier Quantum Puri Sdn Bhd, who shared his reflection:

"Being part of this course reminds me: water is invisible when it works well – but it's the foundation of everything."

Quantum Puri Sdn Bhd is AVK Valves Manufacturing Malaysia's distributor in East Malaysia and the sole distributor of AVK water valves in Sarawak.



AVK GUMMI IS NOW ISO 50001 CERTIFIED

DENMARK

We are thrilled to announce that AVK GUMMI is now ISO 50001 certified, marking a significant milestone in our ongoing sustainability journey.

*By Heidi Shamma,
Project Manager,
AVK GUMMI A/S*

ISO 50001 is the leading international standard for energy management systems. This certification underscores our commitment to optimising energy use, reducing environmental impact, and driving energy efficiency across all aspects of our operations.

Achieving ISO 50001 means that we have established robust, systematic processes to monitor, manage, and continuously improve our energy performance. It is the result of dedicated teamwork and a clear focus on integrating energy-conscious practices into our daily operations.

This accomplishment builds on our strong foundation of internationally recognised standards, including ISO 9001, ISO 45001, ISO 14001, and IATF 16949.

We remain committed to continuous improvement in all areas of our business.



Learn more about how we work with quality, safety, and sustainability.



FACT

ISO 50001

ISO 50001 is an international standard for energy management. The purpose of ISO 50001 is to specify requirements for establishing, implementing, maintaining, and improving an energy management system (EnMS). The intended outcome is to enable an organisation to follow a systematic approach in achieving continual improvement of energy performance and the EnMS.

AVK GUMMI is the fourth company in the AVK Group to obtain ISO 50001.

A SUSTAINABLE CHAPTER OF GLOBAL INNOVATION AND LOCALISED SERVICE

CHINA

2025 marks the 75th anniversary of the establishment of diplomatic relations between China and Denmark. AVK has invested in the Chinese valve market since 1998, including the construction of the Group's largest production facilities to date.

*By Ken Yan,
BD & Marketing Director,
AVK China*

Founded in Denmark in 1941, the AVK Group consists of more than 100 companies and supply operations in more than 80 countries. AVK's core business is the development and production of valves, fire hydrants and accessories, which are widely applied in the water supply, wastewater treatment, gas distribution and industrial sectors.

2025 marks the 75th anniversary of the establishment of diplomatic relations between China and Denmark, and the economic and trade cooperation between the two countries continues to deepen. As a representative Danish multinational enterprise, the AVK Group entered China as early as 1998, and has continued to invest in the local market, committed to providing high-quality full-range valve solutions for China's infrastructure.

AVK production in China

In 2001, the AVK Group established its first production company in Ma'anshan city, Anhui province. In 2002, it opened its first sales company in Shanghai. Subsequently, in 2004, AVK expanded its rubber sealing technology company with the globally famous brand AVK GUMMI in Jiangsu, and it has been committed to delivering high-quality rubber components with a strong focus on consumer safety in food, water, and healthcare. AVK GUMMI adopts first-class materials and patented technologies. The raw materials used for its rubber all come from the highest-grade European factories. The rubber mixing is completed in AVK's most advanced fully automatic mixing plant worldwide, which is highly flexible and efficient, minimizes the risk of human error, and ensures the stability and uniformity of the rubber.

In 2009, AVK Syntec was set up in Anhui focusing on the production of HDPE valves and PE pipe fittings applied in the gas and

AVK's double-eccentric butterfly valves with integrated automation eliminate pipeline water hammer/backflow via dynamic control, enabling unattended energy-efficient operation of pump units and water networks.



water industries. This is a leading plastic valve manufacturer and has successively won many important honors from the government, such as innovative and technology-based small and medium-sized enterprises (SMEs); specialized, refined, distinctive and innovative SMEs in Anhui province; digital production lines in Ma 'anshan city; industrial internet platforms and digital workshops in Ma 'anshan city; and typical demonstration projects for digital transformation of SMEs in Anhui province.

Focus on sustainable processes

In 2012, AVK built a lost foam green casting plant in Anhui. Its energy-saving and environmental protection features are deeply in line with the company's sustainable development concept. It has continuously deepened technological innovation and obtained the CNAS laboratory system certification. This production company is actively developing to become a benchmark factory in the lost foam casting field. By now, AVK's manufacturing base in China has exceeded 330,000 m², with a cumulative investment of over 1.5 billion yuan (\$205.83 million). It has built a complete advanced valve manufacturing industrial chain, forming multiple product lines such as gate valves, butterfly valves, check valves, air valves, control valves, fire hydrants, and pipe fittings. At the same time, it holds multiple authoritative certificates including German GSK/DVGW, British WRAS, and American NSF. The products are not only sold in China but also exported to all over the world through the group's global sales network. Meanwhile, AVK has 10 subsidiaries in China, with 656 local employees. It continuously cultivates professional talents in valve manufacturing and an international team. Through services such as a rapid response, on-time delivery guarantee, and modern manufacturing inspection in the factory, it provides customers with all-round high-quality services.

Based on the advantages of global experience and R&D system, AVK actively responds to China's "double carbon" strategy, and builds a high standard quality control system with 5S lean management and ISO international certification system. The manufacturing plant in China has been awarded the title of "green factory", incorporating advanced 3D printing, five-axis CNC machining equipment and innovative lost-foam casting technology, which significantly improves the production efficiency and environmental protection through flexible, agile, intelligent and informatized production process. It can not only having the capacity to provide more than 1.3 million high-quality valves for customers in China every year, but also promote the green upgrade of the valve industry.



Relying on the advanced manufacturing base and strong service network established in China, AVK has been extensively involved in more than 1,000 projects involving reservoirs and dams, water supply and wastewater treatment, such as Ninghai Pumped Storage Power Station in Zhejiang province, Zhengzhou-Kaifeng Eastern Urban Water Supply Project, Shenzhen Nanshan Water Plant (1.2 million tons/day), and Shanghai Zhuyuan Wastewater Treatment Plant (1.2 million tons/day). Meanwhile, AVK is deeply integrated into high-end manufacturing industries such as semiconductor, steel, chemical and shipbuilding. It works with partners to optimize the valve system, improve the efficiency of water utilization, and help the new urban infrastructure of low-carbon intelligent construction.

After more than 20 years of localized development in China, AVK has its largest valve manufacturing base in the country, and the most comprehensive R&D network covering all fields except the headquarters in Denmark. Up to now, AVK continues to develop steadily and healthily in the China market, with a turnover of more than one billion yuan. As Niels Aage Kjær, Chairman of the Board, AVK, said, *"Our history is the key to our future success"*, AVK Group, as a global leader in the valve industry, will continue to be driven by the five core values of *"Quality, Innovation, Reliability, Sustainability and Customer Service"*.

AVK is looking forward to expanding its presence in China through investment on the basis of the 75th anniversary of diplomatic relations between China and Denmark, accelerating the development of new quality productive forces, expanding cooperation in the fields of water, industry and advanced manufacturing, and promoting the technological progress of the valve industry with its Chinese partners to write a new chapter of sustainable development.

Based in Anhui, AVK's modern manufacturing sites are set to supply customers with reliable, smart and resource-efficient valve solutions that comply with the highest international quality standards.

LIFE SCIENCE – WHEN SAFETY, HIGH PURITY, AND STERILITY IS PARAMOUNT

GERMANY

The life science industry encompasses companies that operate in the research, development, manufacturing, and commercialisation of products that improve health and quality of life.

*By Sabine Fanger,
Marketing & Communication Manager,
AVK Industrial Sales AG*





Reliable valve solutions for efficient production

Effective maintenance of production facilities as well as reliable production cycles are vital to avoid any interruptions during peak manufacturing periods. In response to this need, the Südzucker AG plant of Offenau has integrated InterApp valves into its operational framework due to the high reliability and easy maintenance of these valves.

In this field, the importance of safety, purity, and sterility is crucial. AVK Group's products are designed to meet these stringent requirements, enabling safe and efficient production processes for food and life science products. This is achieved through valves manufactured with materials approved under FDA regulations, EN 1935/2004, and EU No. 10/2011.

Efficient sugar production – Minimum downtime with specialised valves

The AVK company, InterApp, supplies a wide range of valves for the life science industry.

Südzucker AG, a customer of InterApp, is the parent company of the Südzucker Group which is divided into five diverse segments: sugar, special products, CropEnergies, starch, and fruit.

The company is adept at transforming agricultural raw materials into an array of high-quality products, primarily targeting both industrial customers and end consumers. The product range extends beyond food items to include animal feed and various other goods for sectors across both food and non-food industries. A crucial aspect of Südzucker's operations is the complete and efficient utilisation and refinement of these raw materials.

InterApp has supplied an extensive range of valves. These include:

- For handling chemicals, Bianca butterfly valves from DN 50 to DN 200
- For various processes such as vapour generation, evaporation, etc., Desponia® butterfly valves from DN 50 to DN 1000
- For evaporation of syrups and vacuum, Desponia® plus butterfly valves from DN 50 to DN 500
- For beet processing and centrifugation, knife gate valves from DN 150 to DN 700
- For biogas plants and pump protection, Rhea swing check valve from DN 100 to DN 300

Both manual and pneumatic actuators are used ensuring optimal functionality and automation. This collaboration not only strengthens Südzucker's operational integrity but also ensures a production with the highest quality and safety standards throughout the year.

InterApp sees itself as a partner, collaborating with Südzucker to develop solutions that further optimise the plant. This partnership highlights a shared commitment to enhancing reliability and promoting sustainability in production processes.

BACKGROUND STORY – AVK GUMMI A/S 50TH ANNIVERSARY

DENMARK

On 30 September, it will be 50 years since Niels Aage Kjær bought Arthur Andersen's Factories in Låsby, marking the start of AVK GUMMI A/S, today a large and modern company with strong roots in the local community in and around Låsby in East Jutland.

*Anders Guldbæk Christensen
Sales and R&D Director
AVK GUMMI A/S*

Niels Aage Kjær, who took over his father's machine shop, AVK in Galten, had a vision of developing, producing and selling valves for drinking water and gas supply.

To achieve the goal, he quickly realised that it was crucial to be able to manufacture the critical rubber components used in the valves himself. Know-how in the development and manufacturing of these components became the cornerstone of AVK GUMMI and is one of the reasons why AVK valves have a life expectancy of at least 50 years.

Knud Flemming Madsen, a former apprentice to Niels Aage Kjær's father, who in the meantime had been trained as a mechanical engineer, became co-owner and director of AVK GUMMI. He immediately set about cleaning up what at the time was a typical – and thus rather dirty – rubber factory. Tom Bue Johansen, who has been employed for 45 years so far, clearly remembers the first years:

"When I joined in 1980 as an operator, we were only nine employees. Quickly, I took over the work at the mixer, a small manual mixer and the only one we had at that point. Here I was allowed to develop and try things out, which has made the work both exciting and educational – especially through the collaboration with the

Knud Flemming Madsen and Niels Aage Kjær cut the ribbon to the new premises.



Construction of the new factory in Låsby Denmark 1986.



development department. Good colleagues and strong roots in the local community means a lot, and I have always been proud to talk about my work at AVK GUMMI. Contributing to the development from a small workplace to a global company has been both challenging and hugely rewarding, and I can't imagine life without my daily routine here in the mixing department."

Originally, the factory was located on Gl. Silkeborgvej, in buildings that could not meet the goals of growth, as a result plans to build a new factory on Mosegårdsvej were initiated.

From the beginning, the focus was on improving work environment and quality. The factory was tidied up, quality instructions and traceability were implemented, and as one of the very first rubber manufacturers in the world, AVK GUMMI was environmentally certified in 1991.

In the following years, the business expanded to include other customers than AVK, and today AVK GUMMI manufactures quality products for

the food industry, drinking water and energy supply as well as other critical infrastructure.

In 2010, Knud Flemming Madsen handed over the role of CEO to Peter Lorenzen and continued as chairman of the board before retiring after 40 years in the company. Peter Lorentzen started as Production Director in 2005 and has been with AVK GUMMI for 20 years so far. It is probably characteristic of the company that those who settle in stay for many years – often until retirement age.

Today, AVK GUMMI is a modern, international company that is built on strong values of quality, innovation, reliability, sustainability and customer focus. This could not be done without skilled and committed employees to produce items for the customers and to support the development of the company.

AVK GUMMI celebrate its employees and the anniversary on Friday 3 October, where all employees are invited to workshops,

entertainment and a party in the evening. To do so, AVK GUMMI will be closed on that date.

Despite turmoil in the current markets, AVK GUMMI experience a strong development. As a result, many new colleagues have been hired in recent years. We believe that this development will continue, both in Denmark and abroad, where colleagues in the Netherlands, China and soon also the United States, in close cooperation with specialists in Denmark, supply local customers and local export markets.



PE TAILED GATE VALVES RECOMMENDED FOR HOUSING PROJECT

UK

Engineered to deliver resilient pipelines and a fully electrofusion-welded solution with no leak paths.

*By Emily Davies,
Marketing Manager,
AVK UK Ltd*

DID YOU KNOW?

In a trial comparing flanged gate valve installations with the Series 36, it was found that the **Series 36** was, conservatively, 40% faster to install and could improve productivity by 50%

Source: AVK UK



The challenge

A site in Hattersley, east of Manchester, UK, is being developed by Onward one of the largest registered providers of social housing in the Northwest.

The site is well advanced with water, gas and electricity networks built, and connections made. The project team recognised, however, that there was an immediate need for a gate valve to be retrospectively fitted into the water network. BGS Utilities, the multi-utility contractor on site, was tasked with sourcing and installing the valve.

The solution

PE Pipeline Specialists, based near Wigan, liaised with BGS Utilities and recommended AVK's PE tailed gate valve (Series 36) to provide an effective solution on their site.

The recommendation was made because the PE tailed gate valves are engineered to deliver resilient pipelines as they:

- Deliver a fully electrofusion-welded solution with no leak paths
- Are quicker to complete than a flanged gate valve installation, reducing installation times
- Improve water security
- Provide a significant reduction in waste packaging

The Application

The new valve was installed by a team from BGS Utilities, who are based in Warrington.

"This is a great product and alternative to flange work when installing valves on self-lay schemes. The opportunity to remove bolt kits offers great efficiencies for the site teams in delivery and minimises the possibility of leakages when progressing to testing and commissioning works," says Callum Wilson, the BGS Utilities Project Manager, and Matt Hough, the BGS Utilities Site Agent, adds:

"I have worked on the tools for 35 years, and I can't understand why it has taken so long for this product to hit site. I loved it. The installation is quick, it's simple, and there are far fewer leak paths compared to flanges."

AVK UK visited the site to ensure there were no issues with the installation. Here we saw that the PE Pipeline Specialists had done a really great job showcasing AVK's unique product range. In addition to the PE Tailed valve,

BGS Utilities were using Fusion's Fusamatic electrofusion fittings and installing Atplas meter boundary boxes. It was great to see how they embraced the benefits of the PE tailed gate valve straight up. It is a product that meets the needs of contractors for a simpler and more straightforward approach to gate valve installation.

Smart PE tailed gate valves

When pairing the PE tailed gate Valves with AVK Smart Water you'll gain the intelligence you need to build and optimise the networks of tomorrow.

AVK Smart Water enables you to monitor and control your water networks utilising battery-operated wireless sensors which are data-collection ready with a software platform for visualising data – turning it into valuable assets.

The sensors are developed for AVK core products, such as gate valves, fittings, and hydrants. This solution enables optimisation of the water network by saving resources, reducing water loss, and optimising the planning and operation activities within the network.

AVK sensors can monitor the position (open/close or anywhere in between) of valves and hydrants, flow, pressure, level, and temperature, paving the way for reducing leaks, increasing workflow efficiencies, and giving a clearer preview of networks.



ENSURING RELIABLE WASTEWATER MANAGEMENT

HONG KONG

Serving 400,000 residents, Tai Po Sewage Treatment Works is upgrading its aeration tanks with over 100 AVK Series 76 butterfly valves.

*By Stig Th. Bondrup,
General Manager,
Hong Kong, Macau, Taiwan & Korea,
AVK Group*

Tai Po Sewage Treatment Works (Tai Po STW) is a pivotal infrastructure in Hong Kong, playing a critical role in the management of wastewater for the Tai Po region. Tai Po STW was designed to handle the water treatment needs of the 400,000 residents in Tai Po. The facility employs advanced treatment technologies, ensuring that wastewater is processed efficiently and sustainably, before being returned to the environment.

In the water treatment process, settled wastewater from the primary sedimentation tanks is transferred to the aeration tank for biological treatment. Compressed air is fed continuously to provide the necessary oxygen to sustain the growth of micro-organisms (activated sludge) in the aeration tanks. This process assimilates pollutants in the wastewater.

Full quality control

Tai PO STW is currently undergoing replacement, and enhancement works for the existing DN125 butterfly valves used for supplying air to the stage IV aeration tanks, including their electric actuators, SCADA control system and associated cabling works.

Following extensive meetings between the end-user engineering team and AVK HK Team, the AVK Series 76 butterfly valves was chosen for the project and over 100 pieces have been supplied for this critical system.

The main decision for choosing AVK was based on superior specifications in terms of using Stainless steel 1.4021 stem, high-quality coating (WRAS certification) and the fact that

AVK has its own inhouse rubber production facility, ensuring full quality control in one of the most crucial parts of the valve, namely the liner.

The Series 76 butterfly valve

Series 76 is a centric (concentric) butterfly valve, characterized by the stem centred in the middle of the disc and the disc centred in the bore. The butterfly valves supplied for the project are wafer type with a stainless steel 304 disc and a duplex stainless steel 1.4462 shaft. Our Series 76 range includes wafer, lug and double flanged butterfly valves, offering a wide selection of disc and liner materials. Actuations available are lever, gearbox, electrical or pneumatic actuators.

The butterfly valves incorporate a loose liner which is replaceable without requiring a full valve replacement. This design offers a cost-effective solution for above-ground applications where maintenance is relatively easy. The replaceable

liner also has a very robust construction with a convex form and integrated lip sealings in the shaft passage that ensures a tight connection with the shaft. Furthermore, this unique shape offers a secure grip to the body preventing any liner displacement during operation. The integrated gasket faces enable easy installation between flanges. The stainless-steel shaft also features an anti-blowout design along with position indication.

AVK has an extensive product range with a sophisticated selection of high-grade materials to meet or exceed any project requirements and customer needs. This ensures a durable, reliable and maintenance free valve to minimize the impact of suspended operation for customers' peace of mind. AVK products are delivered to the customer's full satisfaction.

Series 76 DN125 butterfly valve



COMMITMENT TO SUSTAINABILITY: AVK BRASIL'S ENVIRONMENTAL ACTIONS

AVK Brasil reaffirms its commitment to sustainability and environmental preservation by implementing internal campaigns focused on recycling and conscious consumption.

*By Juliana Celestrim,
Marketing Coordinator,
AVK Válvulas do Brasil*

Since April of this year, AVK Brasil has launched an important initiative aimed not only at reducing waste but also at promoting an environmentally responsible culture among our employees.

Recycling and awareness

The initiative involves the collection and recycling of Nespresso coffee capsules, plastic caps, and aluminium seals. Employees are encouraged to actively participate, either by disposing of waste generated in the workplace or by bringing recyclable materials they consume at home to contribute to the campaign.

One of the highlights of the initiative is the recycling of Nespresso capsules. These capsules are made of aluminium, a 100% recyclable material that can be reused countless times without losing its properties. Furthermore, the coffee grounds contained in the capsules can also be reused, including organic fertilizer, which increases the environmental benefits of proper disposal.

The collected plastic caps will be donated to Santa Casa de Misericórdia in Sorocaba, a public hospital located in Sorocaba, São Paulo, where they will be used to purchase supplies



and equipment for cancer patients treated at the Cancer Hospital, located within the institution. Thus, the campaign combines environmental responsibility with a strong social commitment. These actions aim to strengthen collective environmental awareness and encourage sustainable and social practices in daily corporate life.

Management and monitoring

Recycling campaigns are led by the Quality and Occupational Safety departments, while social initiatives are coordinated in conjunction with Human Resources and Marketing. All stages are closely monitored to ensure that the processes are organised, safe, efficient, and in compliance with the company's internal standards.

Registration and transparency

To ensure transparency and formalise the donations of seals and caps, an official document will be prepared with detailed information, such as the delivery location and date, a description of the donated items, the corresponding quantity or weight, and the signature of the person responsible for receiving them at the beneficiary institution.

In the case of coffee capsules, a specific date will be set, according to the company's calendar, for environmentally sound disposal. A document will also be generated specifying the total volume recycled, the delivery location, and the corresponding date.

These documents will be archived as evidence of the action and can be consulted whenever necessary.

Goal: Make the action permanent

This initiative, included in AVK Brasil's internal marketing calendar and coordinated by the Marketing, Human Resources, and Occupational Safety departments, began in April and will receive official donations in December. However, more than a one-off campaign, AVK Brasil's goal is to transform this practice into a consistent and permanent action within our organisational culture.

By integrating sustainability into our daily corporate routine, AVK Brasil reinforces its role as an active agent in building a more conscious, ethical, and sustainable future for all.

"At AVK's Brazil plant, we believe that each project is an opportunity to transform actions into concrete results. With the support of the Quality department, our recycling campaigns gain organization, transparency, credibility, and reliability, ensuring that every collected material is disposed of correctly and responsibly."



Alongside Occupational Safety, Marketing, and Human Resources, the Quality department acts as a process guardian, ensuring that each step is planned, monitored, and recorded with excellence. It is this joint effort that strengthens our culture of sustainability and connects us to social causes that truly make a difference."
– Tiago Miranda da Silva, Quality Analyst

"Personally, I believe we can – and must – make a positive difference wherever we are, whether in Brazil or any other country or region."

At AVK Brasil, we rely on the strong support of our managers to implement actions that, while simple, generate a significant impact on both the company's culture and society."

We recently had the pleasure of achieving ISO 14001 and ISO 45001 certifications, standards that directly influence the quality of life and well-being of our employees. As a representative of the Occupational Safety area, I am proud to actively contribute to this process, closely monitoring each stage, encouraging best practices, and ensuring that our objectives translate into concrete results on a daily basis."
– Henrique Camargo Moraes, Occupational Safety Technician

ANNAN WATER RESOURCES CENTRE HONG KONG

Inlet pipe butterfly valves
in preliminary treatment.

*By Stig Th. Bondrup,
General Manager,
Hong Kong, Macau, Taiwan & Korea,
AVK Group*



Butterfly valve installed



Minimising environmental impact

To enhance the wastewater treatment and recycling system, the Tainan City Government established the “Annan Water Resources Recovery Centre” on Jun'an Road in the Annan District, using a BOT (Build-Operate-Transfer) model that introduced private investment for construction and operation. The facility was completed and put into operation in 2021, becoming the first BOT wastewater recovery plant in Tainan.

The Annan Centre can treat 13,500 tons of domestic wastewater per day. With four future expansion phases, its capacity will increase to 54,000 tons per day, making it the largest reclaimed water treatment facility in the city. It serves major settlements in Annan District, significantly raising the city's wastewater connection rate by over 7%, while also improving water quality in the Yanshui River basin and promoting sustainable regional environmental development.

The facility was built on a former fishpond area with a design focused on minimizing environmental impact. In addition to standard wastewater treatment functions, it includes a reclaimed water supply station for secondary uses such as irrigation, street washing, and drought resistance. This strengthens urban resilience and water resource recycling, positioning the facility as a key model for sustainable urban governance in Tainan.

Ensuring operator safety and long-term reliability

This project is a key part of the Annan Water Resources Centre's facility expansion, focusing on upgrading the inlet pumping system during the preliminary treatment stage. This system receives and processes large volumes of domestic wastewater from surrounding areas and serves as the first line of defence in the

Valve installation location





expected to enhance water recovery efficiency while ensuring operator safety and long-term reliability.

Expect quality in every step

The AVK Series 756 double-eccentric butterfly valves, DN400 in size, were ultimately selected and installed in two sets. These products meet European standards and use EPDM rubber seals of drinking water grade, offering excellent pressure resistance and sealing performance – ideal for domestic and reclaimed water transport. The valves performed stably after installation, meeting system requirements and reducing future maintenance burdens.

AVK advantages

The AVK Series 756 double-eccentric butterfly valves installed in the upgraded inlet pumping system at the Annan Water Centre (two DN400 units) primarily control the water inflow before the pumps. As they are installed underground in a humid, confined environment, the client required outstanding operability, sealing durability, and maintenance convenience.

AVK's double-eccentric butterfly valves offer excellent structural design and material selection. Their unique inclined disc design releases sealing pressure during operation, reducing torque and actuator load while extending service life.

The sealing material is AVK's proprietary drinking water-grade EPDM rubber, fully vulcanized to offer superior resilience and aging resistance, maintaining a stable seal over time. This rubber is certified by major international bodies such as WRAS (UK) and DVGW (Germany), meeting strict standards for both drinking and reclaimed water.

For durability, the valve body is coated with high-quality epoxy resin certified by GSK, ensuring excellent corrosion resistance. This provides long-term protection even when buried in wet soil or exposed to chlorinated water. The bearing areas use self-lubricating PTFE/bronze composite materials for smooth, low-maintenance operation. Multiple O-rings are used at the shaft and connections to prevent media leakage and contamination, ensuring reliable long-term underground performance.

treatment process. Its stability directly affects the efficiency and quality of subsequent treatment and reclaimed water output.

To effectively handle sudden influxes of water during peak periods and enhance flow regulation, the client added a secondary measurement section near the inlet pumps and installed double-eccentric butterfly valves as the main shut-off and control devices. These valves are designed to work in tandem with the pump system, allowing real-time switching to redirect excess wastewater to a temporary storage tank, thereby avoiding system overload and ensuring stable operation.

Since the valves are installed in underground valve chambers with limited space and hot, humid conditions, maintenance and operation are challenging. Therefore, the client placed high demands on operational ease, structural durability, and long-term sealing performance. After comprehensive evaluation, AVK's double-eccentric butterfly valves were chosen for their precision design and stable performance,



AVK HAS ACQUIRED FRESE METAL- OG STÅLSTØBERI A/S DENMARK

The AVK Group continues its expansion: With effect from 15 May 2025, the AVK Group has, as part of its continued growth strategy, acquired Frese Metal- og Stålstøberi A/S located in Slagelse, Denmark.

By AVK Holding A/S

Frese Metal- og Stålstøberi A/S employs more than 70 people and has for many years manufactured castings for complex solutions in corrosion-resistant materials, including aluminium bronze, gunmetal, stainless and duplex steel of the highest quality.

The background for the acquisition is that Frese Metal- og Stålstøberi A/S has been a supplier of castings to AVK for several critical products for more than 20 years. In addition, the foundry has sales to external customers in Scandinavia.

"The acquisition adds new production technical skills, know-how and opportunities for castings and ensures a supply chain that fits well into AVK's Advanced Manufacturing division and will contribute to the further development of the division," says Jacob Kjær, Group Director, Advanced Manufacturing.

Buying a foundry are new opportunities

With AVK's takeover, the foundry will continue unchanged under the name Frese Metal- og Stålstøberi A/S. The foundry will be a subsidiary of AVK Tooling A/S. Anders Jensen, CEO of AVK Tooling A/S, will in future assume the role of CEO and Jesper Bjørk Hansen, will continue in the role of COO of the foundry.

"With the acquisition of the foundry, AVK gains access to casting technical competencies in corrosion-resistant materials and will be able to offer the entire value chain from casting to processing, thereby ensuring its customers increased control over quality and delivery capacity. Customer groups will be existing as new customers, just as synergies are expected with AVK on castings in corrosion-resistant material with requirements for EU origin," says Anders Jensen, CEO of AVK Tooling A/S and Frese Metal- og Stålstøberi A/S.

AVK Tooling A/S

AVK Tooling A/S specialises in advanced machining in steel, castings and aluminum bronze of critical components for water, wind, marine, automotive and entrepreneurial machinery. AVK Tooling A/S is headquartered in Sæby and has a production site in Poland, which together employs approximately 130 employees. The company is IATF 16949, ISO 9001 and 14001 certified.

AVK Tooling is part of the AVK Group Advanced Manufacturing division.

POWERING WATER TRANSMISSION WITH PRECISION

ABU DHABI

As part of its long-term masterplan to strengthen Abu Dhabi's water transmission network, Abu Dhabi Transmission & Dispatch Company (TAQA Transmission) initiated a major infrastructure upgrade for the development of a state-of-the-art water transmission scheme in the capital.

*By Anurima Roy,
Regional Marketing Manager,
AVK Gulf*

Project details

Project Name: Unit III Pumping Station Extension
Client: Abu Dhabi Transmission and Dispatch Company (TRANSCO)
Contractor: Société Egyptienne D'Entreprises (SEDE)
Subcontractor: Danway Electrical & Mechanical Engineering
Site: Al Reef, Abu Dhabi

Product supplied

30 pcs manual and motorized Butterfly Valves (DN600 to DN1800)



The project was a strategic infrastructure of the Unit III Water Transmission Scheme aiming to increase the water pumping capacity by 48 MIGD and ensure seamless interconnectivity between transmission lines across Units III, IV, and V.

Key components included construction of DN1200 mm pipelines with integrated Fiber Optic Cable (FOC), upgrades to interface points, and integration with SCADA systems – all demanding robust and reliable valve solutions.

Customer requirement and scope of work

The customer's key requirement for the success of this scheme was the supply of large-size Manual and Motorized Butterfly Valves – ranging from DN600 to DN1800 with extremely tight lead times due to the strategic importance of the commissioning schedule. Lead time was critical, given the large valve sizes and the pressure to meet demanding project milestones.

AVK's district offering and competitive edge

While the project attracted significant interest from international competitors, our long-standing local partner Dutco Tennant played a pivotal role in reinforcing AVK's position, using its established relationship with the client to eliminate competing bids.

AVK – supported by AVK Anhui's state-of-the-art manufacturing facility in China, specialized in large-size valve production and superior quality – stood out by offering shorter lead times than competitors, as we own our casting and foundry operations and thereby guarantee full control over metallurgy and finish and efficient supply chain management.

The proven design and long-life performance of AVK Butterfly Valves under critical service conditions further strengthened our position.

What stood out most was our local presence and technical responsiveness. From design discussions to execution, the AVK team remained closely engaged with the client throughout the project –addressing queries, validating requirements, and adapting quickly to evolving site conditions. This proactive, hands-on approach positioned AVK not just as a supplier, but as a trusted partner – one deeply invested in the project's successful and timely delivery.



OUR ATTITUDE IS WHAT MAKES US DIFFERENT

BRAZIL

Internal Workplace Accident Prevention Week (SIPAT) is a crucial event for AVK Brasil and its employees. It is required by Brazilian law, according to Regulatory Standard No. 5 (NR 5).

*By Nicholas Moraes de Oliveira,
Quality Inspector,
AVK Valvulas do Brasil Ltda*

SIPAT emerged in 1940 with the creation of APBA, the Brazilian Accident Prevention Association, where workers gained representation.

In 1953, Decree-Law 34,715 was published in the Brazilian official gazette, formalising SIPAT, the week dedicated to preventing workplace accidents.

The event is organized by the CIPA (Internal Commission for the Prevention of Occupational Accidents), a group of employees responsible for developing actions focused on this topic.

This is our third SIPAT, and this year, we were pleased to involve our employees in choosing the event's central theme. The winner was Nicholas Moraes de Oliveira, with the theme: 'Protection of Life and the Environment' – a message that reflects our commitment to safety, well-being, and sustainability.

More than a motto, this phrase conveys the essence of our culture: Our attitude is what makes us different. It is the daily choices and actions of each employee that build a safer, more conscious, and responsible environment for everyone.



"Everyone's active participation in SIPAT 2025 reinforces our commitment to a culture of safety and well-being. At AVK Brasil, we value employee engagement and are always open to ideas that contribute to an increasingly safe, healthy, and collaborative environment."

— Carolina Andrade, CIPA President

PROGRAM

First Day: June 3, 2025

9:30 AM – Lecture: Mental Health in the Workplace

A moment to raise awareness about the importance of emotional health, balance, and support in the workplace.

3:30 PM – Theoretical-Practical Workshop:

Hand and Eye Care

An activity focused on accident prevention, focusing on safe practices in the use of equipment and in industrial routines.

Quick Massage

Throughout the day, employees could schedule quick massage sessions, promoting relaxation and quality of life in the corporate environment.

Day Two: June 4, 2025

9:30 AM – Lecture: Harassment in the Workplace

An essential moment of reflection on respect, a safe environment, and the appreciation of everyone in the workplace.

3:30 PM – Lecture: Time Management

Practical tips to increase productivity, reduce stress, and better balance your personal and professional life.

Third and Final Day: June 5, 2025

9:30 AM – Lecture: Safe Traffic

The activity aimed to raise awareness among participants about the importance of responsible behavior to preserve life on the road. The activity highlighted topics such as wearing a seatbelt, respecting traffic signs, and the risks of using a cell phone while driving.

3:30 PM – Lecture: Caring for the Environment with Selective Waste Collection

The activity reinforced the importance of properly separating waste and everyone's commitment to sustainability.



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