# EXPECT STORIES FROM THE AVK WORLD

Expect...

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## FRONTPAGE PICTURE

Two double eccentric butterfly valves with the staggering dimensions of DN2000, ready to be installed in a key water distribution project in Makkah, The Kingdom of Saudi Arabia. Read more about the project on pages 8-9.

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# DEAR READER

The Global Water Summit was recently held in Madrid with participation from more than 800 of the water industry's leading operators, innovators and investors.

One of the key subjects was proposed through the following question:
**"How long time will it take to make the water industry carbon neutral?"**

At the beginning of the conference, 14% or the participants declared that they thought this could be managed by 2025. On the last day, that number had increased to 35%.

In 2019, the Danish government presented the ambition to bring down carbon emissions by 70% before 2030. The water industry quickly supported the plan with the promise of 100% climate neutrality before the 2030 deadline; an ambitious but not unrealistic goal, as many of the large water utilities are far in their green transition journey. The "best in class" examples are close to obtaining 100% surplus energy, meaning that they produce twice as much energy as they use to run their own processes. Unfortunately, the Danish law prevents the utilities from using this energy to run their own facilities, forcing them to sell off the energy to the grid – and buy back the amount they need.

The same goes for one of the new trends – heating pumps. A heating pump from a semi-large treatment facility can produce enough energy to heat up around 5,000 houses. Luckily, the legislations have been updated recently, so they can now deliver heat to the district heating network.

When the Global Water Summit brings up the carbon neutral water sector, it is because wastewater utilisation as a source to green energy is increasingly in focus. And why do we not flip the picture, so instead of "just" cleaning water, the no. 1 task for a treatment plant would be to produce and sell energy? Almost all other processes in a community needs energy, and besides contributing to the 2030 ambition, it is good for our environment and for the climate.

When browsing through this edition, you will find that sustainability and climate adaptation projects make up an increasing part of our portfolio, as well as smart, sustainable ways of operating and maintaining water utilities around the world.

And yes, maybe there is still some heavy steps to be taken when it comes to reaching carbon neutrality. But it is not because we lack the means or the technologies. We need the cooperation, and we need the decisions to be made.

Enjoy reading.

Michael Ramlau-Hansen

# REAL-TIME OVERVIEW OF NETWORK ASSETS

DENMARK

VIDI positioners were added to vital valves in Strømmen water utility's network. The personnel can now check the valves' position remotely, eliminating any guesswork or manual check-up. Sounds smart, right?

*By Jesper Flarup,*
*Deputy Manager,*
*AVK Danmark*

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Strømmen Water Utility has divided their water supply network into four separate zones, also referred to as district metered areas (DMAs), which makes it easier to keep track of what is going on where in the system.

The valves that are installed on the “borders” between zones are called DMA valves. These are very important valves as they function as the nerves of each zone, and it is critical to know if these valves are closed, open or perhaps somewhere in between.

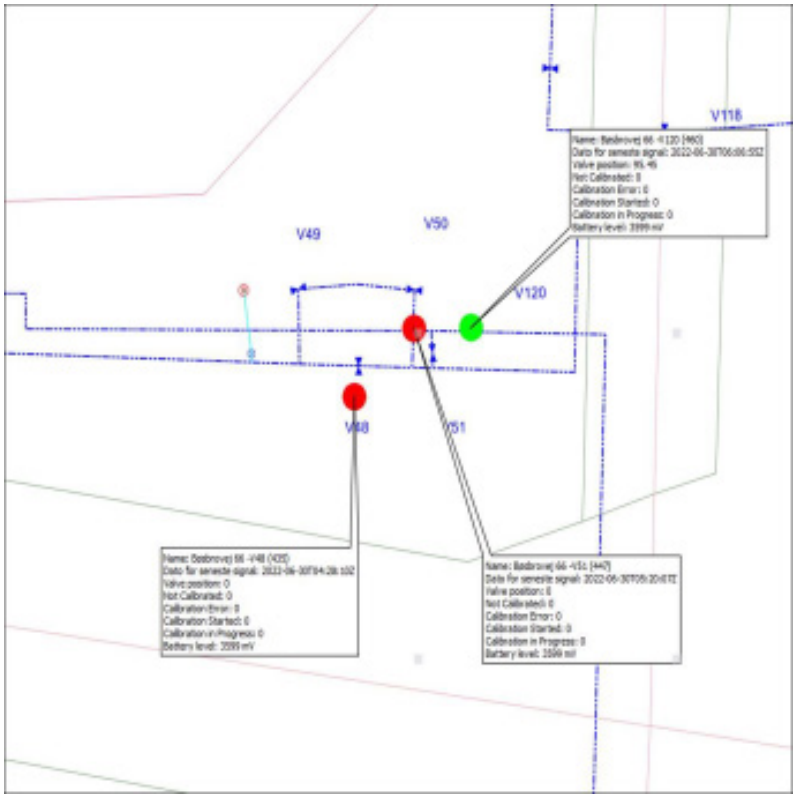
**Precise data is key**

The whole concept of dividing the network into zones relies on knowing the position of the DMA valves. Therefore, Strømmen decided to install VIDI Positioners on eight important and strategic valves, so they always have the exact information right at hand.

Based on this information, a water utility can optimise the operation of the water distribution network, extend the lifetime of installed assets, and efficiently reduce water loss.

In the map below, you can see how data is presented in our VIDI Cloud software. The map illustrates the valves’ positions in percentage after the first four VIDI Positioners had been installed.

Having direct access to this data saves a lot of manual work and time for a utility. Now they can check the position from anywhere, whereas before they would either have to guess or ask someone to drive to the location, manually turn the spindles and make sure the position was as needed.


**Easy transmission of data**

Strømmen is working together with Rambøll, a global engineering and consultancy company, who are supplying them with valuable GIS maps of the water supply network and its equipment.

The below image shows the GIS map of Strømmen's supply network illustrating the pipelines, valves and fire hydrants that make up the supply system. Rambøll receives data from the AVK Positioners to include in the map, which happens via the open API that makes it easy to transmit data to a third-party software. This means that the utility only needs one single system to obtain a full overview of the network.

On the map, you can see how three of the Positioners have been added, and the valve position can be seen in the GIS map descriptions combined with a red or green colour to indicate whether it is open or closed.

# APPROVALS FOR OUR REPICO® COUPLINGS

We proudly present the range of approvals that are granted to our various Repico® couplings.

*By Dana Hofman,*
*Marketing Manager,*
*AVK Nederland BV*


Repico® pipe and repair couplings are produced in our production facility AVK Rewag in Vaassen equipped with state-of-the-art production machinery, and by highly qualified and skilled engineers.

We manufacture both standard and customised products that meet the highest standards of safety and sustainability. Our in-house test facilities have been approved by various agencies according to the latest requirements.

AVK Rewag is ISO 9001 and 14001 certified and we only use the highest quality stainless steel and rubber parts and seals. The Repico® products are fitted with high quality rubber sealings especially developed in our rubber manufacturing plant to suit demanding processes and environments.

The approvals are very important for our maritime customers and give us more opportunities in this market.

Our Repico® couplings have been thoroughly tested under the hardest conditions by the leading international classification societies below. This includes the following tests: tightness test, vibration test, burst pressure test, pull-out-test, vacuum test, repeated assembly test, fire test and pulsation test.

**Learn more in our new Repico® brochure**
Because of the granted approvals we updated our Repico® brochure with comprehensive technical details, installations benefits, certificates & approvals, and the many application possibilities of the Repico® couplings. Also included in the brochure is an extensive overview of all the available types and configurations of the Repico® couplings.

# UTILITY GETS FULL OVERVIEW WITH NB-IOT SENSORS

DENMARK

For some time, the water utility Halsnæs Forsyning has experienced challenges monitoring the pressure in the distribution network. The challenge arises when enquiries from customers need attention. This leads to time-consuming searches that are often in vain because it is difficult to identify the source of the problem.

*By Ida Kirstine Rohde Mikkelsen, Marketing Coordinator, AVK Smart Water*

**Three specific requirements for the solution**

Halsnæs Forsyning was looking for a solution that could help them monitor the water pressure across 21 inlet chambers. Furthermore, they needed a solution that met a certain set of requirements.

"It was important to us that the solution we found could live up to our specific requirements," says Mikkel Nielsen, COO at Halsnæs Forsyning. He continues:

"First of all, we needed sensors that could be located in a large geographical area without connection to the power grid. Secondly, the sensors had to be powerful enough to penetrate cast iron and composite lids, so we could be sure to receive data from them. And thirdly, we wanted a full integration of the data from the sensors to our existing IT system."

**AVK delivers wireless NB-IoT sensors with an integrated API**

Initially, AVK delivered NB-IoT sensors for five inlet chambers. Four of them installed in inlet chambers with cast iron lids and one with composite lid. All five sensors worked impeccably and sent important pressure data back to the utility.

Therefore, Halsnæs decided to install 16 sensors more in the remaining important inlet chambers. Now, the operation manager has a quick overview of the water pressure in the network right at hand. Based on the information from the sensors, he can check directly in the IT system and determine whether the pressure is correct according to the pre-sets or not. That way, he can also rule out if the problem is caused by something in the distribution network – saving both time and unnecessary driving.

**Facts about Halsnæs Forsyning**

- Households: around 21,000
- Utility employees: 77
- Yearly drinking water production: around 620,000 $m^3$
- Supply lines: around 200 km

# IMPORTANT WATER INFRASTRUCTURE PROJECTS IN MAKKAH

SAUDI ARABIA

The Kingdom of Saudi Arabia is taking on an important task of upgrading their water infrastructure, and AVK SVMC is assisting with products and solutions.

*By Randa Abu Mazen,*
*Marketing Coordinator,*
*AVK Saudi Valves Manufacturing*

**Prioritising better water infrastructure**

In the Kingdom of Saudi Arabia, the total length of the water network is 121,356 km, covering 2.26 million domestic water connections (2019 numbers), as well as a wastewater collection network measuring 43,729 km and including 1.46 million connections.

The plan is to expand the main water pipelines by more than 8,000 km.

These plans for the Kingdom also mean important opportunities for AVK SVMC to offer our services and solutions.

Recently, we have been part of a National Water Co. (NWC) key project in Makkah, which is a strategic water plan covering three main water pipeline projects (45 km in total) worth SAR146 million altogether.

These are in addition to 11 water network projects worth SAR506 million, covering a length of 975 km in total and 47,850 house connections. In total, all the water projects in Makkah will amount to 1.8 billion SAR.

The purpose of these projects is to increase coverage and to eliminate the need for water tankers. AVK SVMC got the chance to be a part of this project thanks to our sales team offering the customer's preferred solution, standing up to the requirements, offering quality products with target prices.

For the project, we were able to provide one of our best valves, which met with the NWC specification requirements; a double eccentric butterfly valve with the staggering dimensions of DN2000.

**What is a double eccentric butterfly valve?**

Double eccentric butterfly valve is also called high-performance butterfly valve. It is mainly used for drainage of water plants, power plants, steel smelting, chemical industry, water source engineering, environmental facility construction and the like.

It is especially suitable for water pipelines as regulating and intercepting equipment. Compared with the centreline butterfly valve, the double eccentric butterfly valve is more

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resistant to high pressure, has a longer life and improved stability. Compared with other valves, the larger the diameter, the lighter the material, and the lower the cost. But since there is a butterfly plate in the middle, the flow resistance is large, and AVK double eccentric butterfly valves are designed with tilted disc for easy operation.

The disc seal is made of AVK's drinking water approved EPDM rubber featuring an excellent compression set and thus ability to regain its original shape. The high quality DVGW/WRAS approved epoxy coating and fully encapsulated shaft/disc connection ensure high durability. The valves up to DN2400 are suitable for bi-directional application. It is the perfect choice for any water line.

**Protecting a vital resource**

Water is one of the important natural resources on earth – it is the second most needed substance after air for the survival of all the living organisms on the planet.

To protect the quality of water supply, the superiority of AVK valves is exactly what you need. The risks of leakages or contamination are excluded, and laboratory tests are performed of the rubber used in our products to make sure that it is odour-free, colour-free and taste-free even after years of use.

# EQUIPPING NANJING WITH A FLEXIBLE WATER SUPPLY SOLUTION

CHINA

To secure both regular and emergency water supply, AVK has contributed to an important water source project in Nanjing City, Jiangsu province, to ensure both urban and rural access to drinking water.

*By Ken Yan,*
*BD & Marketing Director,*
*AVK Valves Shanghai*

Drinking water safety plays the irreplaceable role as our natural source of life. According to the requirements of Jiangsu Provincial Government, all suitable areas should build two or more drinking water sources with relatively independent control of water intake, which is regarded as important to the management of main water sources.

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In 2019, Nanjing Municipal Government held a meeting to discuss the project of Nanjing Jiangbei emergency water supply. The Sancha Reservoir was officially identified as the second emergency water source of the Jiangbei Yangtze River Delta Integrated Green Development Demonstration Area.

The total investment of the second water source project of Sancha Reservoir is CNY3,422 billion, and it includes three parts: a water source construction and water quality maintenance project involving the Sancha Reservoir, the comprehensive water intake pumping station “Qiaolin” (850,000 $m^3$/d), the Jiangpu booster pumping station (500,000 $m^3$/d) as well as a 62.5 km long water pipeline.

**Ready to face water shortage**

The project is for both emergency and regular water supply. The water intake was moved from Jiangpu Water Source Plant to Qiaolin Waterworks, where a new comprehensive water intake pump house was built so that it can regularly deliver 600,000 $m^3$/d to Qiaolin Waterworks, 800,000 $m^3$/d to Jiangpu Waterworks and Puqiao Waterworks as well as 150,000 $m^3$/d to Sancha Reservoir.

In case of an emergency, the Yangtze River will be closed to collect raw water and send it off to the comprehensive intake pump rooms at Qiaolin, Jiangpu and Pukou Waterworks for the supply of raw water to meet the emergency water demand of the Jiangbei area for three days.

In views of the huge scale of the project, the selection of large diameter butterfly valves was critical, as the products directly affect the daily operation of the pump station and the safety of the water plant production. Safety and reliability are the very top priorities of the project, meaning that the valves’ applicability, advanced technology as well as needed features should be carefully considered.

38 sets of AVK series 756 double eccentric butterfly valves (DN1000-DN2600) with manual or electric actuation were chosen for the project. The large-diameter valves are especially favored by our customers due to its excellent sealing performance, the light operation, resistance against corrosion, compact installation area, flexible operation and the fact that it is in line with various international drinking water certifications. AVK has upbuilt a very advanced valve manufacturing base in China which provides an effective guarantee for the project plan to proceed as scheduled.

In addition, AVK participated in the emergency water source construction project of Nanjing’s main urban area, where we provided comprehensive valve solutions including gate valves, butterfly valves and air valves, ranging from DN200 to DN2600.

At AVK China, we strive to be an active partner in shaping our country’s water agenda. Together with our partners, we help refurbish existing valve solutions and develop new water networks in growing urban areas that benefit local citizens, eco-systems as well as operation efficiency.

# SHOWING OFF OUR HYDROPASS AT IRRIGATION CONGRESS SPAIN

AVK Válvulas participated in an irrigation event to promote our products for sustainable irrigation.

*By Daniel Garrido*
*ACMO Product Manager,*
*AVK Válvulas (Spain)*


On May 30 – June 3, the XV National Congress of Irrigation Communities (FENACORE) was held in the city of León's Congress and Exhibition centre.

**Prioritising a sustainable irrigation scheme for Spain**

The Spanish government has decided to invest more than EUR2,137 million before 2027 within the framework of the recovery, transformation and resilience plan in an attempt to promote a more sustainable use of irrigation in our country. This will be a significant boost to the sector and means great opportunities for us to offer our assistance.

For the first time, AVK – with AC.MO collaboration – was present at the event as we wanted to promote our products and solutions for the irrigation market in our country.

Many professionals from the sector came to see our stand, and we did a presentation to the participants of our no. 1 product for irrigation: the Hydropass, which is inevitable not to mention when talking about sustainable irrigation.

The event was a complete success, with more than 1,000 participants registered. Being a reference event in the irrigation sector, we will be present in the following editions as well. We hope to see you again in 2026, then to be held in Ciudad Real!

# LARGE-SIZE KNIFE GATE VALVES IN STORMWATER DRAINAGE PROJECT

UAE

A deepwater drainage tunnel to help Dubai tackle stormwater issues has reached its pre-operational stage. The pumping station will support sustainable processes as well as the marine environment in the area. AVK Gulf and Orbinox delivered the valve solution for the pumping station.

*By Anurima Roy,*
*AVK Gulf,*
*Reg. Marketing Manager*

Storms, heavy rain and flooding has previously caused damage and disruption in the area. In the hope of mitigating the effects, an extensive drainage solution was initiated.

Exhibited as one of the most important exceptional infrastructure projects in Dubai, the stormwater system will serve the whole of Dubai South. The system will collect stormwater and surface water from a total area of 500 $km^2$ – equivalent to around 40% of the entire urban city – transporting water through a 10.3 km long deep tunnel with an internal diameter of 10 m and a depth of 40-60 m.

The tunnel ends at the terminal pumping station near Jebel Ali Port, where water is drained through a double system, which can drain excess water through pumps connected to lines extending 600 m into the sea with high operational efficiency. This makes the main pumping station highly integrated when it comes to services, buildings, and facilities in the management of stormwater drainage as well as surface water.

Offering protection to the marine environment, the collected stormwater will be discharged into the sea only after climate change and sea level has been considered, therefore, supporting the principles of sustainability and taking into account the safety of the marine environment.

**The project in detail – one of UEA's sustainability projects**

The scope of work included the construction of a 30 $m^3$ and 55 m deep pumping station auxiliary buildings and associated facilities.

Stantec was appointed as consultants, and the main contract to execute the design and construction of the terminal pump station was awarded to Archirodon back in 2017.

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The station measures 150 x 175 x 62.5 (depth) m, and has an overflow structure with shoreline outfall, with 3 x 500 m HDPE pipes, 2,000 mm diameter outfall pipes, hydraulically actuated penstocks and valves, HVAC installation, power supply distribution network, power transformers and switchgears, as well as all associated buildings, including mechanical, electrical, instrumentation and control works and external works.

**Finding the right valve solution**

After Archirodon was awarded the job, they proposed three different designs to the client, Dubai Municipality, to meet the project requirements. AVK and Orbinox stayed in close contact with Archirodon from the early stages, and were therefore able to bring their expertise within especially engineered big valve solutions to influence the design proposal.

As the specifications for the valve were not clearly defined, and even though the initial requirement was of a metal seated gate valve with hydraulic actuator, the team from AVK Gulf and Orbinox focused on an Orbinox knife gate (DN2200) as the preferred suggestion. The gate was to withstand several challenges due to the collection of highly corrosive groundwater under high-pressure (PN 10), making the knife gate made of super duplex (SA2507) material with hydraulic actuator stood out as the ideal solution.

After several meetings and visits, the knife gate solution was finally proposed as the most convenient solution for the client. In September 2019, the job was awarded to AVK and Orbinox, not only beating tough competition from other European providers but also considering that a DN2200 metal seated gate valve that can be hydraulically operated is actually very difficult to find.

Moreover, Orbinox' WS model is a cost-effective solution with a proven track record of delivering similar solutions for various dams and reservoirs around the globe.

**Challenging dimensions**

Due to the size, weight, and dimensions of these huge, heavy valves, installation at the site came with its own set of challenges – not eased by the fact that they were to be installed at a depth of 42 m below ground.

The entire process was slow and labour-intensive, enabling accurate and precise installation at the very first attempt for every valve, which each came with a weight of 20 tones.

However, the actual fixing of the valves to the pipes was relatively straightforward as they are fixed with bolts. The hydraulic cylinders operating the valves were also installed with extreme precision and accuracy enabling them to operate smoothly.

Close teamwork, engineering expertise and local support have proved to be our strengths throughout the project, opening an entryway into Dubai Municipalities' robust project pipeline.

The total project had a value of EUR3.4 million.

**Fun fact**

The deep tunnel stormwater system is considered the first of its kind in the region to drain stormwater and surface groundwater, by collecting water and storing it for the next 100 years.

**Products supplied to the project**

4 x hydraulic-operated knife gate valves, PN10 (DN2200)

# TURNING INTENTIONS INTO PRACTICAL, LIFE-CHANGING PROJECTS

INDIA

Since the green strategic partnership was signed back in May, by Prime Ministers Narendra Modi and Mette Frederiksen, there has been a lot of online activity between Danish and Indian players in the water sector – with the Danish ambassy in Delhi as main facilitator.

*By Michael Ramlau-Hansen,*
*Public Affairs,*
*AVK Holding A/S*

**From concept to hands-on projects**

Following all the good intentions, the task will now be to transform them into actual projects. The Indian government has an ambition to reduce the country's average water loss of about 50% to – in the first move – around 20%.

Back in June, a delegation visit to India was arranged by the Danish embassy, DI (the Confederation of Danish Industry) and Danish Water Forum. Around 70 people from Indian authorities were gathered to get inspired by Danish companies presenting how to cope with challenges such as: water loss, energy loss, wastewater collection and management, pollution of rivers and lakes, and much more.

The Ministry of Jal Shakti, which are responsible for the entire household water supply in India, as well as the Ministry of Housing and Urban Affairs invited participants to ensure a close collaboration and to try and establish a pilot project demonstrating a water solution based on Danish principles.

Therefore, it was a pleasure to present the Danish LEAKman (leakage management) project which fits right into the agenda of sustainable, efficient water management.

During the visit we also met with Larsen & Toubro, one of India's largest engineering and contractor companies, who of course see themselves as natural allies in such a pilot project. Larsen & Toubro signed an MoU (Memorandum of Understanding) with AVK and DI, so it makes perfectly good sense to kick-start the collaboration with such a project.

**Site visits and inspiration**

Fortunately, we also had time to look at some site installations in between all the high-profile meetings. We visited the Reverse Osmosis facility in Chennai, which on a daily basis treats more than 45 million litres of water for industrial use. The water is reused water, which in part comes from surface water, desalinated sea water and groundwater, but primarily from cleaned wastewater transported in from local wastewater treatment plants. The facility is driven by VABAG, a commercial company, which over time has faced the fact that it is not possible to just keep pumping water from the ground; the combined water cycle of the society needs to be sustainable and efficient. The water from the facility is pumped through a 600 mm pipeline 65 km out of the city to an industrial area, where it becomes part of various industrial processes: i.e. the car industry.

At AVK, we are looking forward to taking part in the many important initiatives that will take place in India in the coming years.

# KEEPING UP WITH THE DEVELOPMENT

AFRICA

Africa is developing in a very fast pace. The need for clean and affordable water has never been greater, and to meet the local requirements AVK is increasing its efforts in the continent and has redefined its strategy to put more attention into especially East and West Africa.

*By Kieran Cantrell,*
*Market Development Manager,*
*AVK International*

Especially two recent developments highlight our increased attention.

Firstly, feasibility study for a project in Kiambu county in Kenya resulted in the go-ahead for a Danida Sustainable Infrastructure Finance project with the title THIKA AND GITHUNGURI WATER AND SANITATION PROJECT.

The project consists of 170 km of water distribution pipelines up to DN500, and even bigger pipelines for wastewater. The towns Thika and Githunguri will receive soft loans and a grant coordinated by Athi Water in Nairobi. Jan Ketley visited Kenya recently with the aim of meeting the end-users involved in this up-coming project, and the next trip will be to Uganda, where Danida is involved in a similar project.

Secondly, a delegation from Lagos in Nigeria was hosted by AVK in June. 11 representatives from the Ministry of Environment & Water Resources, the Ministry of Energy & Mineral Resources, and the Danish Consulate took part in a study tour with focus on green solutions within water, wastewater, climate adaptation and energy.

On behalf of AVK, Michael Ramlau from AVK Holding presented the LEAKman project covering topics such as district metering areas and non-revenue water, which are very present issues in Lagos. The AVK approach to pressure management also generated a lively discussion during the visit.

However, the challenges being faced in Lagos are very different to those we face in Denmark. Niels-Erik Andersen from AVK Holding and I are now working hard to develop a pilot project in Lagos together with the Danish Consulate and Danida. Hopefully, we can inform you about the progress in a later edition of InterLink!

Guillaume Vion, Product and Promotion Manager (previously located at AVK France) has relocated to Abidjan in the Ivory Coast and will be focusing on West Africa and the Maghreb. Jan Ketley, Area Sales Manager at AVK International, has just joined us with full focus on East Africa and Nigeria.

# AVK HYDRANTS DECORATING THE NEW CENTRE OF DOHA

QATAR

In the Msheireb Downtown projec, 120 wet barrel bronze fire hydrants with rustic finish from American AVK – among other products – were supplied by AVK in Qatar.

*By Dias Thottan*
*General Manager*
*AVK Flow Control, Qatar*

Launched in 2009 by Msheireb Properties, a subsidiary of the Qatar Foundation, the Msheireb Downtown Doha project is now the new centre of Doha. Comprising over 100 buildings with commercial and residential properties offering retail and cultural options in the heart of Doha, the sustainable development project has changed the structure of the entire city.

Spread across an area of 764,000 m², the project is a regenerating phase for the old districts presenting a newly inspired look of green buildings, the use of sustainable energy and the superior service.

**The project in detail**
The scope of work included the construction of residential, commercial, and retail spaces consisting of hotels, museums, mosques, schools, parking, and community facilities.

The project was implemented in six phases; Phase 1A, 1B, 1C, 2, 3, and 4, and the masterplan team consisted of Arup as lead technical consultants and AECOM with Allies and Morrison playing the sitewide 'architectural

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voice' role and design architect of 30 individual buildings.

Phase 1A, 1B, and 1C involved the construction of Diwan Amiri Heritage Quarter and Mandarin Oriental Hotel awarded to the lead consultant Arup, AECOM, Morrison and Allies. Phase 2 involved the construction of retail-oriented mixed-use activities awarded to Allies and Morrison, Squire & Partners, and Gensler. Phase 3 covered the construction of the residential community awarded to John McAslan and Partners, Mossessian Architecture, Squire & Partners, Eric Parry Architects, and Mangera Yvars. Phase 4, the final phase, included the construction of a transportation hub awarded to Mossessian Architecture, HOK.

**A match in functionality and design**

In the beginning of 2010, AVK started working with the lead consultant Arup and CAT International contractors for the selection and specification of the right fire hydrant for the project. The most important requirement of the client and Arup was to have a wet barrel hydrant in bronze material with a rustic metallic look which will sink into the project's architecture and building look and finish, so the hydrants would both serve its functional purpose but also match the design and aesthetics of the area around it.

In other words, a high-quality fire hydrant that meets the highest safety standards available and at the same time looks fantastic. And so, it does!

After a series of lengthy discussions, exchange of ideas and expectations followed by detailed presentations and documentation to the client, we were finally successful in getting the series 24/64 wet barrel bronze fire hydrant from American AVK recommended for the project. Big thanks to the AVK teams in the US and Qatar for your dedicated efforts!

During the construction phases from 2013/14 to 2019, AVK delivered 120 wet barrel bronze fire hydrants through various main contractors, MEP and fire protection contractors who were employed for the project and supported every single contractor in inspection, installation, testing and commissioning of the delivered fire hydrants.

**Other products supplied to the project:**

Besides the hydrants, AVK also supplied butterfly valves and check valves for the chiller plants as well as gate valves for Landscaping & Irrigation purposes in the project through our then local distributor.

# AVK GLOBAL MANAGEMENT CONFERENCE – 121 LEADERS UNITED

DENMARK

Our leaders representing different business units and regions of the AVK Group were gathered and reunited in Denmark for our first physical Global Management Conference in four years.

The AVK Global Management Conference 2022 took place at the Skanderborg Park Hotel on June 9 - 10, 2022.

“It was great to reunite with good friends and colleagues from around the world, celebrate our past achievements, and look ahead to our future journey. We will continue to focus on developing quality products and solutions that contribute to solving some of the global challenges. In the coming period we will focus on sustainability, digitalization, leadership and SMART water," says Niels Aage Kjær.

On the first day, focus was on financial and operational performance of the group, and newly acquired companies were introduced including Furnes, Q-Pall, OMV and Atlantic Plastic. Finally, four new main strategic initiatives were presented. These included: People & Leadership, Digitalisation, Sustainability and Smart Water. Morten Albæk, CEO of Voluntas was the keynote speaker and he gave an inspiring presentation on “Meaningful Leadership”.

On the second day, the main topics were the AVK Business System and the presentation of core processes.

This was followed by information about IT strategy, AVK Market Place, AVK Academy & E-learning and business planning along with strategy deployment. Bo Øksnebjerg, General Secretary / CEO of WWF Denmark (World Wide Fund for Nature) was invited to speak about global environmental challenges and some of the important work by the WWF.

It is safe to say that the conference was a great success and gave us the opportunity to look back at past achievements and set a clear strategic direction for the coming period.

# SUPPLYING ONE OF THE WORLD'S LARGEST PULP AND PAPER PRODUCERS

BRAZIL

Bracell is one of the largest producers of dissolving pulp and specialty cellulose in the world, with industrial operations in the cities of Camaçari, Bahia and Lençóis Paulista in the state of São Paulo.


*By Juliana Cristine Celestrim,*
*Marketing Analyst,*
*AVK Válvulas do Brasil*

**Project STAR**
In the ambituous "project STAR", Bracell wanted to expand its production capacity from the current 250,000 tons/year of kraft pulp to 1.5 million tons/year of dissolving pulp or up to 3 million tons/year of kraft pulp. AVK Válvulas do Brasill supplied valves for the project.

**High-tech and sustainable processes**
The new factory in the city of Lençóis Paulista relies on the sector's very best technology. It will have two flexible lines primarily designed to produce soluble cellulose.

The expansion plan will feature the latest technologies aimed at a new generation pulp mill, that does not use fossil fuels. In addition, it will be self-sufficient in energy and the surplus will supply the National Interconnected System with clean, high-quality energy.

**Products supplied to the project:**
- VCW fast check valve, standard, DN600, DN700, DN1000 and DN1200
- VCW fast check valve, stainless steel, DN100, DN200, DN350, DN500 and DN600

The installation of the check valves was carried out in the Tiete River catchment.

All the used water will pass through the water treatment plant at the Bracell factory and will be returned to the river completely clean.

The pumps capture the water taken from the Tiete River basin, and the check valves protect the pumps against the return of water, preventing water hammer.

# GOING GREEN STARTS WITH OUR EVERYDAY PROCESSES

BRAZIL

**World Environment Day**

Preserving nature is the main message of World Environment Day. Every year, on June 5, several civil society organisations launch manifestos and take measures to remind the public of the need to preserve the environment.

This day is also remembered and celebrated by The Global Compact, encouraging the participation of companies in projects and solutions for environmental preservation.

The Global Compact quoted the phrase “One Earth”, which was first said in 1972 during the Stockholm Conference, an event that defended harmony between life forms and that they must coexist in a sustainable way with nature. This debate remains current and seeks to promote transformations and preserve natural resources and harmony with nature.

*By Juliana Cristine Celestrim,*
*Marketing Analyst,*
*AVK Válvulas do Brasil*

With this theme in mind, AVK Brasil took advantage of the oppertunity to take actions in favor of preserving the environment, raising awareness in all sectors of the company.

**Preparing our staff**
Training was carried out within the month of June together with all our collaborators.

**The topics covered are:**
- The importance of World Environment Day
- Selective material collection
- Health and safety
- 5s and 8s work methodology
- Global Compact and the 17 Sustainable Development Goals

During the training, a pencil was given to all employees made with reforestation wood. The upper part contains a compartment with Embaúba seeds, a tree from the Atlantic Forest, encouraging everyone to plant trees.

**Highlighting the easy “green” actions**
In each department we have placed a poster near the light switches, informing about the necessity of saving energy whenever possible. On each printer, a sticker has been placed to inform about the awareness of paper printing.

**Improvement of material disposal**
Currently, we are looking for companies to help us with the correct disposal of each material used in our factory.

**Tree planting at our factory**
Outside our factory, we have planted an Ipê tree. The Ipê tree symbolises our Brazilian nation.

The tree can measure up to about 30 meters and blooms from the end of July to the month of September. We chose the white color, and are excited to follow as it grows. Our goal is to keep ourselves motivated and dedicated, year after year, and to keep reviewing and optimising our processes in a greener direction.

AVK, together with all its collaborators, stands stronger to achieve the goal of having a more conscious society, capable of applying new ideas to preserve the environment.

# SUPPLYING VALVES FOR A NEWLY CONSTRUCTED CITY

INDIA

Bagalkot City in Karnataka was facing issues with flooding which continuously left huge parts of the city submerged and practically unliveable. To cope with the need for urban space, Navanagar city was constructed.

*By Ranjan M. G.,*
*Regional Assistant Manager Sales,*
*AVK India*

The city's bulk water supply system and wastewater treatment plant has been equipped with AVK valves supplied by AVK India.

**Expanding the urban area**

The new city was designed with 63 sectors spread across 616 hectares of land six km away from the Bagalkot city border.

Of the 63 sectors, 56 were exclusively meant to rehabilitate those areas affected by the local Almatti Dam which had been contributing to the submergence of the city. The Government of Karnataka acquired 1,821 hectares of land for the Almatti Dam project.

Land was allocated for the people, and they planned for better infrastructure with the Bagalkot Town Development Area (BTDA) department to manage Navanagar's construction. Once the project is completely finalised, it will be handed over to Municipal corporation.

**Support from AVK India**

We worked closely with the BTDA department engineer right from the beginning of the project, preparing the detailed project report.

We suggested a solution including surge control valves, non-return valves, gate valves, butterfly valves and air valves. Extension spindles and surface boxes were implemented to avoid valve chambers, which means that operation will be cost-effective and easy.

**Safe and efficient conditions**

The non-return valves were installed in the wastewater treatment plant's jack well, which is a structure used for accumulating water from surface sources, in this case from the river.

The plant's pump house station is running under safe conditions due to the surge control valves supplied, and with the inclusion of air valves, the entire system is working securely and with reduced risks of harm to equipment or working staff.

**Products supplied to the project:**

- Gate valves (DN100-200), 597 pcs
- Surface boxes and extension spindles, 597 pcs
- Air release valves and isolation valves, (DN80-150), 30 pcs
- Double eccentric butterfly valves (DN600-900), 4 pcs
- Non-return valves (DN400), 2 pcs
- Metal seated gate valves (DN700), 2 pcs
- Surge control valves (DN300), 2 pcs

# BECOMING THE CLIENTS' GUIDING PARTNER THROUGH VALVE TRAINING COURSES

SOUTH AFRICA

Since launch, our training centre has certified over 1,600 engineers, distributors and students through South Africa's only ECSA-accredited valves training courses.

*By Nicole Singh, Marketing Manager, AVK Southern Africa*


**The Academy**

Back in 2016, AVK Holding (Pty) Ltd established The Academy which is an in-house training facility with a 40-seater seating capacity located inside AVK Southern Africa's office building in Alrode, Guateng. The institute showcases an impressive flow lab which demonstrates the flow of water through a series of valves allowing attendees to gain a comprehensive understanding of water related processes. Since its establishment, three courses have been developed and launched:

- The Valve Fundamentals Course provides a sound introduction to acquire an essential knowledge of different types of valves, in theory and practice
- The Advanced Valves Principles & Practice Course provides greater insight into principles and practices that address the theories of fluid pressure, fluid flow and field applications
- The Technical Process Course for Valves covers subjects such as corrosion, erosion, details on valve selection, actuator sizing, factors influencing the sizing, pressure management, water loss control and finally more comprehensive details on valve maintenance and repair

All three courses are accredited by ECSA (Engineering Council of Southern Africa), and attendees receive 2 CPD points upon completion.

Since the launch, the Academy has certified over 1,600 participants, and has gained much traction in Cape Town as well as in Zimbabwe and Zambia.

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In March and April 2019, the Academy hosted The Valves Fundamentals and The Advanced Valves Principles & Practice Course training course in Zambia, training 89 delegates consisting of engineers, end-users and consultants.

In October 2021, the Academy continued with face to face off-site training, facilitating training for 180 booked delegates consisting of engineers, end-users and consultants in the Mother City, Cape Town.

In June 2022, the Academy hosted the Valves Fundamentals training course in Zimbabwe, Harare. Delegates in attendance were from Harare City, ZINWA (Zimbabwe National Water Authority) and Pump System Africa – AVK's sales channel partner for Zimbabwe.

The Academy delivers a high quality, bespoke, in-house training solution for upskilling of engineers, end-user, consultants and channel partners.

"AVK is not just a valve supplier, but also a valued educator. AVK and The Academy becomes a part of our clients' operations in such a way that they come to us for guidance. In some instances, return for training when they have new projects with very specific or special requirements that The Academy can assist with." – Roelf Frauendorf, Training Manager at The Academy


# FUSION CELEBRATES 50 YEARS OF BUSINESS

Unfortunately, due to the pandemic we were unable to celebrate as planned and had to postpone the celebrations. However, this gave us the opportunity to bring together our colleagues, past and present, customers, clients and partners for an exhibition and gala dinner event and we were delighted that colleagues and visitors travelled from all over the globe to be with us.

*By Reid Dawson,*
*Creative Lead,*
*Fusion Group*

**Showcasing the Fusion journey**
The exhibition event was split into three main features: an interactive walkthrough exhibition, a live demonstration of our mobile app Fusion Assist and a tour of our manufacturing and testing facilities in Chesterfield.

The interactive exhibition took customers through the Fusion journey, starting in 1971 and ending in the present day. On display was some of the old equipment and products that were made and used early in our history in the 1970's and 80's. Specially made rigs of pipe and products ushered visitors around the room moving from old to new.

The exhibition then moved from manufacturing excellence into how our products are prepared and installed on piping systems. There were examples of Electrofusion and Butt Fusion good practice as well as a rig showcasing how our products can provide the perfect solution within water and gas pipeline systems.

Our AVK colleagues were on hand with products from their offer including the Pentobox and valves used for gas and water. This area showcased the great synergy between the businesses and how we have been working together in new product development. The customers were then able to ask any questions they had to our experts who were on hand to support.

**Fusion Assist app demonstration and site tour**
In a separate room from the exhibition, our Group Technical Manager, Stephen Tann, delivered an interactive Fusion Assist demonstration showing how the

app is used and how it can help our customers with the traceability of their assets, show the products in AR, and so on.

The demonstration got some excellent feedback, and we hope the app will help resolve some of the issues our customers may be facing.

The final element of the day was a tour of our world-class manufacturing and testing facilities. The tour involved a walk around Fusamatic. The tour showcased some of the robots and automation that are used to manufacture our products on site.

Customers were able to experience the whole manufacturing process flow from raw materials, component preparation, socket and tapping tee manufacture, through to final inspection, packaging, and despatch. Customers took the opportunity to ask questions as they walked around the 'shop floor'.

The customers then had the opportunity to visit our world-class testing facilities and were hosted by Group Director Lisa Shelton and Test Laboratory Manager Shawn Shelton. They explained the Test Laboratory capability and how our products go through various stages of testing to meet a number of industry product standards and test methods around the world. They then demonstrated material tests, decohesion tests, and examples of good and bad electrofusion welding.

**..and some time for celebration**

The Gala Dinner was held at the remarkable Devonshire Dome in Buxton; a beautiful venue, and as guests arrived, they were greeted to a red-carpet reception with fizz, canapés and stilt walkers. TV's all around the venue showed images of Fusion employees and customers, past and present. It was brilliant to see the smiles, laughter and hugs from people seeing old colleagues and friends.

**Silent charity auction**

During the evening we held a silent auction to raise funds for a number of charities chosen by Fusion Group employees with many citing close personal reasons for having connections with the charities. In total, we raised £5417.17.

All in all, an evening full of entertainment, music, great atmosphere and catching up with good friends, colleagues and customers. The evening showcased exactly what Fusion is and has been about for its 50-year life: truly great people and spirit.

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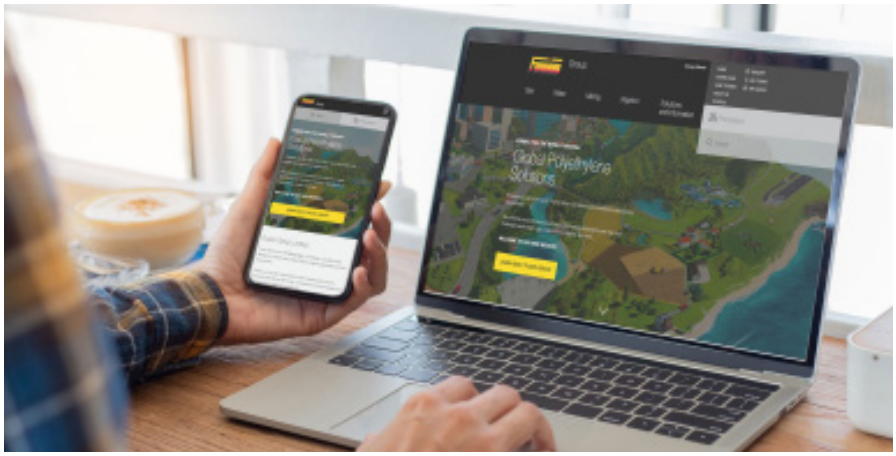
**Have you visited our NEW Fusion Group Website?**

As part of our digital journey, we are delighted to announce the launch of our new website. The site sits within the AVK Global Digital Platform Solution connecting over 40 AVK companies with even more to follow.



Delivering a fully responsive experience, the new website provides visitors with a seamless transition from desktop to mobile browsing and pulls the latest content through to the home screen for quick and easy access to key information.

This advanced solution takes Fusion Group to the next level of digital information sharing and communication. This is the initial phase of Fusion's development; more enhancements will be added to the current content and functions over the coming months.

# JOIN US AT THE IWA 2022 CONFERENCE IN COPENHAGEN

DENMARK

This September, from Sunday 11th to Thursday 15th, the International Water Association will host the biyearly World Water Congress & Exhibition in Copenhagen. The theme is “Water for Liveable Cities” and naturally, AVK will be present alongside various other Danish companies, all together forming a Danish Pavilion that showcase the newest, well-proven technologies.

*By Michael Ramlau-Hansen,*
*Public Affairs,*
*AVK Holding A/S*

The congress will touch upon a long range of contemporary themes such as water scarcity, wastewater pollution, climate changes as well as energy neutrality. A broad group of Danish companies – including AVK – has chipped in with interesting subjects to be presented at Business Forums during the event.

**Project presentations and site visits**

Along with engineering company NIRAS, AVK will give a presentation about the LEAKman (short for leakage management) project from 2016-2021, which was initiated to test off known, well-proven technology with a digital approach and had the purpose of verifying that it is possible to drive a distribution network with almost no water loss.

AVK has delivered intelligent pressure management solutions as well as Smart Water assets.

It will be possible to go on a site visit to the site. If you join, you will be able to see our products up-close and experience how they work under usual operating conditions.

**Stop by the pavilion for an active coffee break**

At the Danish pavilion, there will be different coffee break sessions with a “hands on” approach, usually with a half-hour duration. Also, we will be sharing insights about our latest Smart

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Water initiatives and the VIDI Cloud solution.

**Smart introduction at our AVK headquarters**
In connection with the congress, we will arrange a trip from Copenhagen to our headquarters in Galten. The trip will include factory visits as well as an introduction to our intelligent water solutions.

We are hoping to see many of our customers, partners and of course AVK employees from all over the world!

**When talking about water...**

Why not go for a swim in the city's harbour while visiting? Copenhagen offers a variety of public harbour baths, which are very popular among both locals and visitors. Back in 2018, Copenhagen was announced the no. 1 place to visit if you are looking to combine vibrant capitol life with a cool swim, because of the water being exceptionally clean.

A subject that is getting more and more attention is the use of Industrial Water. In Denmark, three leading companies within dairy, butchery and brewery have participated in a project that aims to explore the concept the "water-less" processes within their businesses. They will too share their insights in a separate Business Forum.

# INTRODUCING NEW PRODUCTS AND CONCEPTS AT IFAT 2022

GERMANY

IFAT is our region's biggest international trade show within water and wastewater, which usually takes place every second year. Due to Covid-19, IFAT 2020 was cancelled, so this was our first big international trade show since 2018.

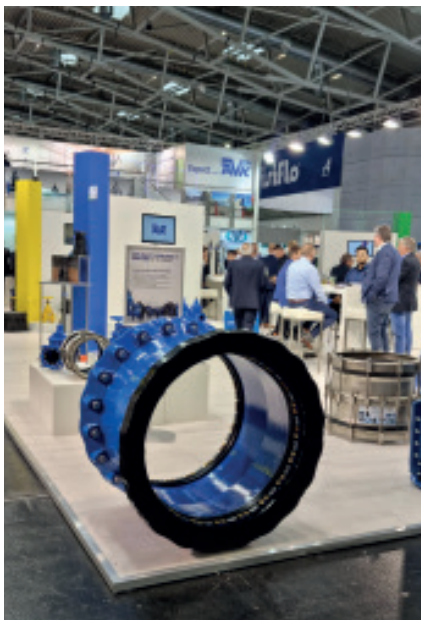
*By Lene Mark,*
*Head of Marketing, Continental Europe,*
*AVK International*

119,000 visitors and about 3,000 exhibitors had the opportunity to focus on environmental technologies and how to use resources efficiently. The number of visitors was a bit lower than usual, most probably due to the war in Ukraine and covid-19 shutdowns in China, but the halls were still buzzing with energy and good spirits.

AVK had a 320 m2 booth with product exhibition on the ground floor and meeting and dining area on the first floor. We presented our Smart Water concept for the first time at IFAT, as well as our new DN800 Supa Maxi coupling and our new duplex steel gate valves, which we expect to release later this year.

Naturally, we also presented our new Premium 100 gate valves as well as a large selection of our wide range including products from ACMO, HydroCos, AVK Plastics, AVK Rewag, AVK Armaturen, AVK Polska, InterApp, CYL etc.

AVK had a great show with a lot of visitors at our booth, so we are looking forward to the next IFAT show taking place 13-17 May 2024.



# COMPETITION


We are happy to announce that the winners of the competition in AVK InterLink no. 59 are:

- Øystein Hveem, Bergen Vann
- Martin Baker, AVK UK Water Projects
- Javier Medina Jiménez,AVK Válvulas, S.A.

Gifts are on their way.

The correct answer is: 330,000 $m^2$

New competition:

How many AVK hydrants are installed in Doha's new downtown area?

Send an e-mail with the correct answer in which you state your address and the gift you would like to receive – if you win.

E-mail to: lios@avk.dk

Choose between:

Beach towel with AVK valve

Picnic grill in a cooler bag

Ocean bottle

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Expect... AVK