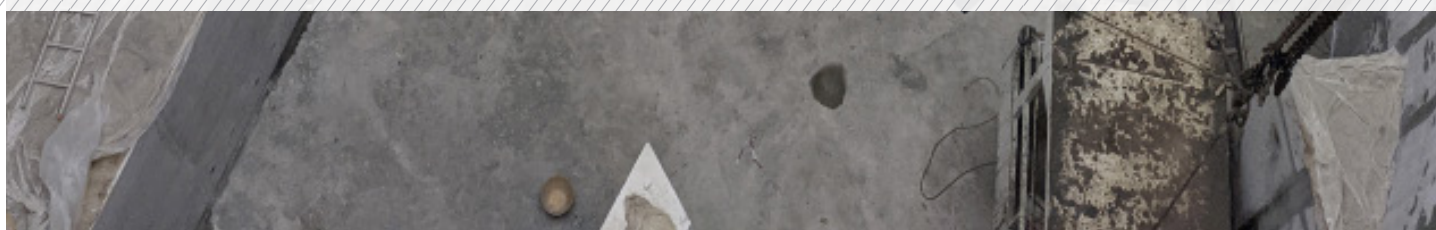




EXPECT
STORIES FROM THE
AVK WORLD

Expect... **AVK**



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Frontpage picture

The frontpage illustrates the largest bulk head gate ever installed in the Dubai region, which leads excess rain or ground water into the Arabian Sea. The gate has measurements of impressive 5.2 m from top to bottom and side to side.

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DEAR READER

When I flip through this issue of InterLink, it strikes me that the primary articles are about one of two things. Very large products for large projects, all of which handle the challenges of a secure and stable water supply or climate protection; or on digitisation and automation of water supply. Major themes that are highly relevant and very apparent on the global agenda.

Covid-19 has to a large extent demonstrated the importance of mobility in the operation of water and wastewater, which belongs to the critical infrastructure of our societies. The operational staff must be able to operate a water supply despite assembly bans and distance requirements. Water is a necessity of life, and if the water supply collapses, the whole society will collapse.

The same goes for climate protection: water is the first indicator that

something is wrong. Either there is too much or too little water. The UN estimates that by 2030, more than 700 million people will have moved because of water. Either away from too much water, or even closer to water because they have come to live in a drought-stricken area. When we experience too much water in the form of cloudbursts and floods, we also see massive pollution because the drainage systems cannot handle the large amounts of water, and we see massive pollution of the drinking water network. As you can read in this edition, AVK can deliver on all these fronts. And there will be more projects of a similar nature, because whether the changes are man-made or not, the world is undergoing a change.

AVK welcomes the green transition. We have a lot to offer in relation to the green transition, and we are happy to participate in discussions

where the importance of water for all the other major challenges such as energy, health, livability and societal development is discussed.

As something completely new in the fight to reduce our carbon footprint, the Danish government has launched a new and exciting project: The establishment of an energy island in the North Sea. Read an introduction on page 28.

Enjoy reading.

Michael Ramlau-Hansen



FLONIDAN RELEASES FIRST EVER **ULTRASONIC SMART** **GAS METER**

DENMARK



By Lis Mussmann
Chief Marketing Officer
FLONIDAN

After years of scientific research and fine-tuning, FLONIDAN presents their first ever ultrasonic gas meter: SciFlo®. The first variant is designed for the UK smart meter market.

Article continues on the next page >

Facts

SciFlo® was initiated as a technology project in 2007. Funded by “Højteknologifonden” (Foundation for Advanced Technology), the project was driven in cooperation with the Institute for Product innovation at University of Southern Denmark.

The cooperation ended in 2010 and FLONIDAN continued the development on their own.

In 2012, the professor originally working with the project at University of Southern Denmark was hired by FLONIDAN to finalize the project.

In 2018, the technology project was converted into a product development project and the design of an ultrasonic gas meter for the UK market started.

In November 2020, the first SciFlo® was approved for sales in UK.

The UK smart meter market

Following the 2009 EU directive about smart metering, the UK government mandated a nationwide rollout of smart meters to replace the 53 million gas and electricity meters installed across the country. The rollout was set to begin in 2010, but constraints related to legislation, technology and latest Corona have challenged the process. Today, less than 1/3 of the meters are replaced and UK utilities are struggling to meet the deadline.

Geared for mass deployment

With millions of installations still to come, UK utilities are keen to speed up the installation and avoid costly and troublesome installation processes. With features like *Automated Network Assist* and *Auto-Connect*, the new SciFlo® smart gas meter targets just that. It enables a swift and simple installation process combined with long-life and high-performance; - all in a one-size-fits-all meter.

No wear and tear

Unlike common gas meters, the SciFlo® is a static meter with no moving parts, and volume is detected and measured via ultrasound. This principle demonstrates high accuracy, and it stays unaffected by the natural wear and tear that takes place over a long service life. As a result, SciFlo® has a lifetime of 15+ years with pinpoint accuracy and an absolute minimum of maintenance.

Noiseless operation

While UK consumers are reportedly positive towards the benefits of having a smart meter installed in their homes, the ticking sound of a gas meter in operation can cause frustration. With no moving parts SciFlo® operates silently, putting noise complaints to a stop, and enabling installation even in living spaces.

Indoor as well as outdoor

With high water protection and high fireproof ability, SciFlo® is suited for both indoor and outdoor installation. 80 mm high and 135 mm deep SciFlo® is less than half the size of a common gas meter and will fit in even the most confined spaces. This allows meter installers to always bring the same type of gas meter, despite the changing installation scenarios.

Connected to the nationwide UK smart meter network

SciFlo® is connected to an inhouse communication hub, which connects to a nationwide smart meter network. This enables consumers to track their gas usage on an in-home display and gas providers to have frequent meter readings. The network connection also allows for over the air upgrades of the software in SciFlo®.

High expectations

Although SciFlo® was launched during the pandemic, the reception has been quite positive and the interest high. FLONIDAN expects to secure the first big UK contract in coming months and other markets are expected to follow in coming years.

ADVANCED WATER CYCLE MANAGEMENT COURSE 2021

DENMARK

Back in 2019, where corona was still just known as a Mexican beer, we held the very first Water Summer School. 45 participants from across the world met up in Laasby for the two-week intensive course about the water cycle.

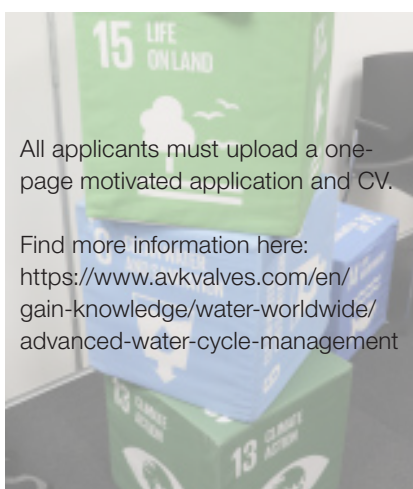
*By Michael Ramlau-Hansen,
Global Brand Manager
AVK Holding A/S*

In 2020, the world was shut down due to the pandemic, and so was our summer school. But now we will try again and can hopefully launch our 2021 course later this year.

The course is open to a maximum of 50 participants and welcomes students from Denmark, applicants from the industry and other national and international applicants according to the course admission requirements.

The Advanced Water Cycle Management Course is an international course designed to upgrade your water management skills and give you an overview and substantial knowledge of water re-source management, water distribution and wastewater handling including resource recovery.

The course will run from 15-27 August 2021, and the application must be submitted by April 1st.



What will you learn?

You will gain experience in applying the established engineering knowledge, know-how and state-of-the-art components in the whole water cycle, from abstraction to the delivery of the cleaned wastewater back to nature.

You will learn how to analyse advantages, problems and principles in water related issues, understand how to minimise unnecessary water and energy consumption as well as how to turn wastewater treatment plants into being net energy producing. You will experience how the private sector is working in a unique and close collaboration with the public sector as well as with the regulatory authorities and ministries in Denmark.

Furthermore, you will tap into how various types of instruments and components used in water management are operated in concert. And you will be involved in teamwork challenges associated with water management as well as an opportunity to give input on how to solve them.

The course offers social events and great networking opportunities and includes several important site visits to relevant industry and facility players.

The teaching

The course is a great mixture of classic lectures, interactive classroom teaching, site visits and group work exercises. It is taught in an informal

atmosphere by leading researchers and industry experts.

The course is divided into three parts all connected to each other:

Part 1 - Holistic overview and understanding of the water flow

Initially, the course provides you with a very important holistic overview and understanding of the water flow all the way from detection, mapping, management, and distribution to the final flow into the wastewater treatment and/or resource recovery plant.

Part 2 - Special track - deeper insight

With the basis in the holistic overview of the water flow you will take a focused dive into one of the three main topics adding further specialized knowledge to your new water management skills.

The topics are:

Ground water management:

You will get a comprehensive insight into the process of mapping and protecting groundwater resources. You will learn about geology in general, the water cycle and how to map aquifers and aquitards with different mapping methods. You'll also learn about data relevant for building 3D geological models and get insights into the methods used to acquire these data, including some of the newest technologies through hands-on experience.

Water distribution:

You will learn how to run a sustainable water distribution network with efficient leakage management, pressure optimisation, asset management and at the same time challenge your creative ideas for new ways of addressing water use, water scarcity and rehabilitation of the infrastructure. The track includes group exercises and discussions.

Wastewater management and resource recovery:

The track is focusing on the functioning of conventional wastewater treatment plants for municipal water, and issues like resource recovery including biogas production, greenhouse gas emission, micro-contaminant removal, and control strategies will be discussed. Alternative means of water purification such as constructed wetland will be presented. Part of the track will be on sewer design and how to avoid excessive corrosion due to hydrogen sulphide formation. A modern wastewater treatment plant will be visited.

Part 3 - Group assignment - bring your knowledge into play

You will finish off the course with a case-challenge in teams, where your knowledge and innovative ideas will come into play. The result will be an oral team presentation of your solution(s).

The case is about a fictive city running out of surface water, and where a search for and extraction of ground water is necessary. The distribution network is full of leakages, so you'll need to take action to bring down the water loss and NRW levels. Finally, wastewater must be collected and utilised for green energy production, and the cleaned water must be led to a constructed wetland, where it can re-enter the ground for future use.

From December, the course was open for applications for Danish students and any foreign students situated in Denmark under the pandemic. From January to April 1st, it will be open for international applications; not just for students but for anyone who works with water and is interested in a knowledge upgrade regarding water's journey throughout society.



IN THE FIELD: USE CASE OF VIDI POSITIONER

DENMARK

Searching for malfunctioning equipment in a supply network is a comprehensive, costly and time-consuming task. Digital add-ons can save time as well as unnecessary emissions and energy usage.

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

One of Aarhus Water's largest water works supplies over 12,000 people in central Aarhus, Denmark. The water works has two Ø500 mm PE transmission lines, three large water towers holding 25,000 m³ of water and four large KSB block pumps with a capacity of 950 m³/h to supply the central part of the city.

It is important that this process functions correctly. If not, it will affect the supply and thereby the consumers. Aarhus Water experienced first-hand what happens when there is a malfunction somewhere in the system. The utility experienced challenges with the block pumps, as they did not supply the desired amount of water.

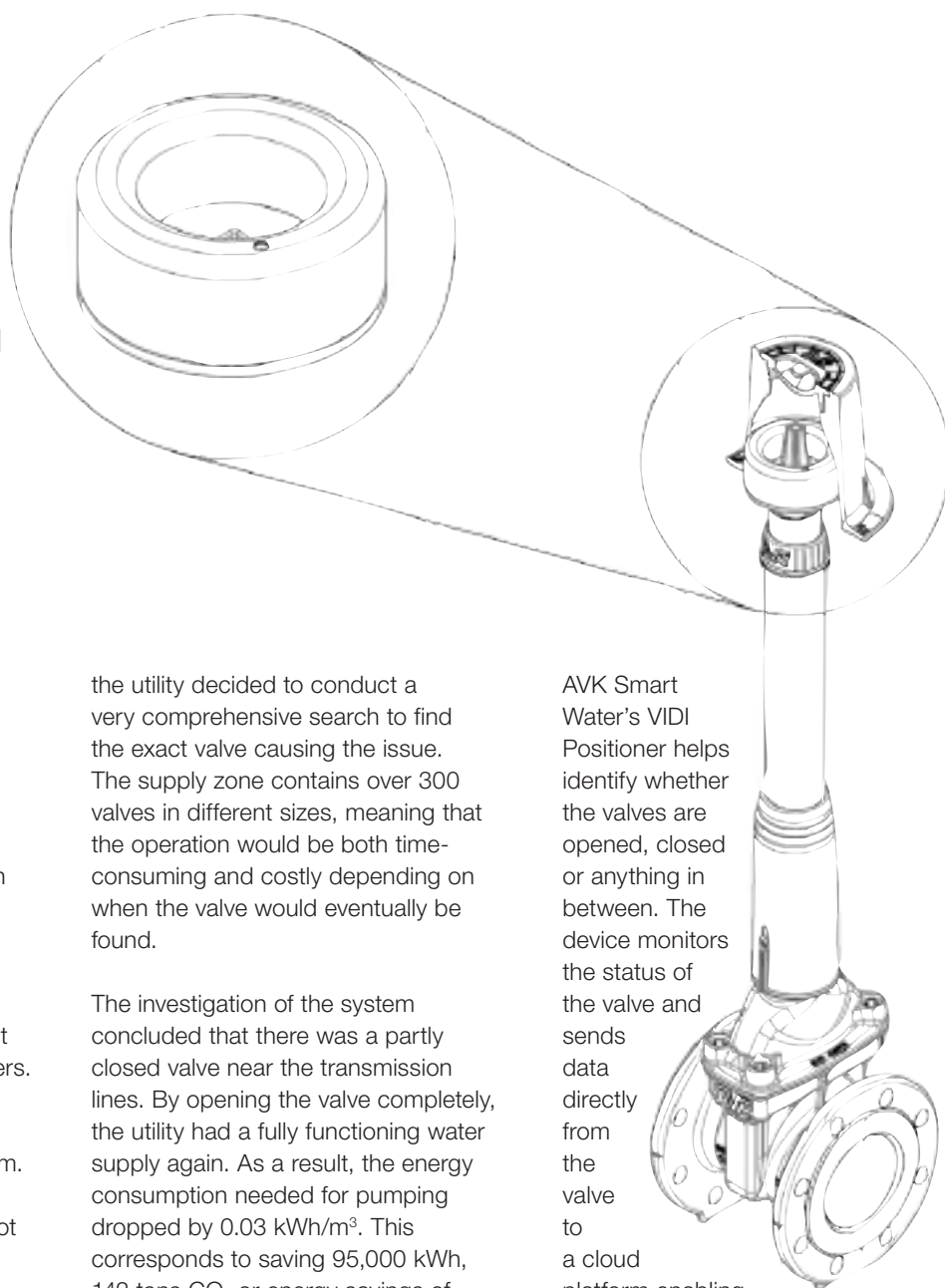
Troubleshooting and localising the source

By testing the pumps and comparing the pump curves, Aarhus Water discovered that there was a large pressure drop in the system; perhaps due to a wrongly positioned valve somewhere in the system. Therefore,

the utility decided to conduct a very comprehensive search to find the exact valve causing the issue. The supply zone contains over 300 valves in different sizes, meaning that the operation would be both time-consuming and costly depending on when the valve would eventually be found.

The investigation of the system concluded that there was a partly closed valve near the transmission lines. By opening the valve completely, the utility had a fully functioning water supply again. As a result, the energy consumption needed for pumping dropped by 0.03 kWh/m³. This corresponds to saving 95,000 kWh, 142 tons CO₂ or energy savings of around DKK 60,000 - every year. With pump tests, valve testing, normalisation and adjustments, the estimated cost for the entire operation amounted up to DKK 55,000; costs that the utility could have saved with the right IoT solution installed in the supply system.

AVK Smart Water's VIDI Positioner helps identify whether the valves are opened, closed or anything in between. The device monitors the status of the valve and sends data directly from the valve to a cloud platform enabling utilities to ensure that valves are rightfully opened or closed.



ORBINOX EXPANDS THEIR PRODUCTION FACILITIES

SPAIN



With increasing demand for tailored solutions, ORBINOX expands their facilities to make room for even more detailed work with specialised products.

*By Ricardo Iturrioz,
Sales & Marketing Manager,
ORBINOX VALVES INTERNATIONAL*

As part of the ORBINOX Group's growth strategy, ORBINOX S.A., Anoeta in Spain has expanded their production

facilities with the purchase of the plant's next-door building. 1,500 m² of the new facility have already been renovated and prepared to relocate the assembly and testing of the standard knife gate valves.

The arrangement has allowed ORBINOX S.A. to free the bay where

standard knife gate valves were being produced and to dedicate this bay for the assembly and testing of specialised valves and penstocks.

The growth of ORBINOX S.A. in recent years, especially based on project business with specialised valves, has highlighted the need for additional assembly and testing space. An area that is now nearly twice its original size.

Besides Spain, ORBINOX' growth strategy also includes expansion plans for the production facilities in China and India, which is expected to be completed by the end of 2021.



VIRTUALLY PLANNING AND SUPPLYING TO KEY DRAINAGE PROJECT

QATAR

*By Dias Thottan,
Sales Manager,
AVK Flow Control (Qatar)*

In 2017, Qatar's Public Works Authority undertook a project to expand and build an expressway in Doha due to a rise in population and in the number of vehicles on the roads. The \$590M contract was awarded to the South Korean company Daewoo Engineering & Construction (DEC).

Improving traffic capacity and drainage solutions

The project aims to cope with the growing traffic in the expressway by increasing the number of lanes on three multilevel intersections enhancing the traffic capacity and reducing congestion in the area.

The scope of work is to add a 4.5 km extension to Qatar's e-ring expressway and to build a 4 km long road with three multilevel intersections on both sides including the construction of shared pedestrian and cycling lanes. Moreover, the upgrade also includes the construction of a 3.5 km rainwater drainage tunnel improving the efficiency of drainage networks in the area.



Expansion and upgrade of one of Qatar's busiest roads, AVK Flow Control & Orbinox supply in the storm water drainage solution.

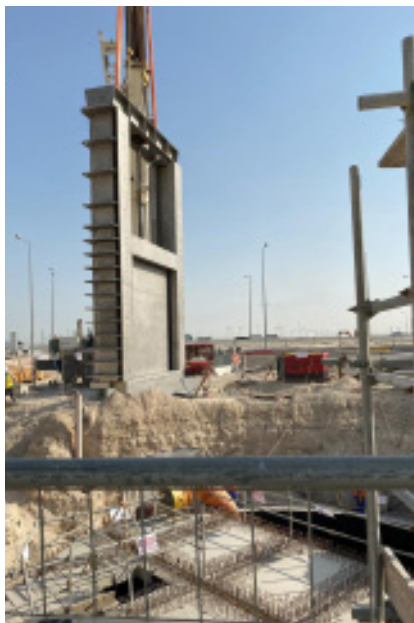
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For the project, DEC & Ashghal required two large roller gates (2700x2800 mm) installed in the storm water drainage tunnel with a complete solution. During these unprecedented times, where travel and onsite visits were off limits for our product experts, it brought along challenges regarding the supply, installation, testing and commissioning of the penstocks.

Virtual presentations, negotiations, and installations

After several online meetings with DEC and Ashghal, it was agreed to go with AVK Flow Control & Orbinox' proposal for using the unique Orbinox MV roller gate solution with closed frames to take the maximum thrust on the frame while enabling easy operation against high water heads. The roller gate proposal was with a submersible type electric actuator with drive mounted on the frame, as well as a control unit in ground level to cope with fully flooded conditions in the shafts. As the solution well exceeded the requirements, the proposal was well accepted order was placed in November 2019.

Innovating at every possible step, the AVK Flow Control team undertook



confined space training to best prepare themselves for accessing and working the shaft during the installation. Experts from Orbinox were present online, remotely enabling a successful installation, testing, and commissioning of the roller gates in cooperation with the DEC project team.



The gates were delivered at DEC's site in August, installed by September, and final testing and commissioning was finalised by 31st of December 2020.

Products supplied to the project

- Two large MV roller gate valves for storm water shafts, 2.8 m x 2.7 m
- Access shafts for sewage and groundwater:
 - on-seat water head, 24.5 m
 - off-seat water head, 24.7 m
 - invert to coping, 20.9 m and 17.5 m
- Wall penstocks for under pressure tanks
 - 400 mm x 400 mm MU
 - 600 mm x 600 mm MU



FROM MAN-DRIVEN TO SYSTEM-BASED MANAGEMENT: OPERATING WITH AN OPEN SYSTEM

DENMARK

In the past, Herning Vand has been dependent on individuals knowing everything worth knowing about the utility's water distribution system. For example, how the system is built; why it is built this way; where valves are placed and whether they are opened or closed.

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



Concurrently with system growth, this approach has challenged the utility over the years, as it can be difficult to maintain a crystal-clear overview of a growing distribution system based on assumptions.

Sometimes, the utility struggled with time-consuming efforts to track down information about specific assets in the system, because only few individuals knew the status and the exact location of the assets. But now Herning Vand has decided to become more system-based and has therefore started the process by sectioning the water distribution network in Herning. Part of this process is the digitalisation and retrieval of data from critical points in the system.

Data from IoT devices paves the way for efficiency

Herning Vand has initiated a development and structural planning of the entire distribution system in Herning municipality. In the search for technological solutions for water systems, the utility has entered into a development project with AVK Smart Water. The project includes installation of position indicator devices on selected gate valves and smart hydrant caps with an alarm function on selected hydrants.

“Basically, the purpose for us is to obtain as much data as possible from the system and use it both for operational and planning purposes,” says Mads Riber Rasmussen, Project Manager at Herning Water. He adds: “We want to be able to see our entire distribution system and see the actual operational status of our most

important assets. That is why we teamed up with AVK Smart Water.”

AVK Smart Water develops intelligent alarm devices for valves and hydrants that detect changes in the hydraulic setup and then send the data to a cloud platform. The position indicator detects whenever a valve is opened, closed or anything in between. It sends an alarm when the valve is operated and sends a regular update of the valve status. The smart hydrant cap also detects the open/close status of a fire hydrant and sends an alarm whenever the hydrant is opened or closed.

Unique grid insights improve decision making

Valves and hydrants play an important role in water management. Some are more important than others, and not

[Article continues on the next page >](#)



Therefore, the employee on duty had to call around to find out what was going on. A time-consuming task that could have been avoided with alarm devices installed.

“You can’t keep an eye on all assets all the time – the distribution network is simply too large,” says Mads Riber Rasmussen. He continues: “But with position indicators on our valves, we get an alarm if a valve is opened or closed. We can also continuously

monitor the actual operational status of valves at critical points in our system.”

The position indicator from AVK Smart Water enables Herning Vand to monitor the open/close status of carefully selected valves in the water network. The device detects and sends an alarm whenever the valve or hydrant is opened or closed. It also sends status updates continuously, and the utility can see the actual operating status of the valves in the distribution network.

knowing the status of these critical assets can affect a utility’s water loss, its ability to provide safe drinking water, and its general operation. Valves that are not fully opened or fully closed can result in disruption of meter readings, but even worse, it can affect the pressure in the consumer’s water supply.

In fact, the utility experienced a specific situation where a waterworks suddenly had an extremely high consumption of water, but they could not tell why. It could either be a major leak or a hydrant being opened in case of a fire.



FACTORY ACCEPTANCE TESTING **VIA ZOOM**

INDONESIA

We always strive to reach out, meet and serve our customers wherever we can. To cope with the current limitations, we conducted our first virtual FAT together with a team from InterApp A/G.

*By Ahmad Fairu Zabadi,
Marketing Manager,
AVK Fusion Indonesia*

With InterApp joining us online from Switzerland, we successfully held our first virtual factory acceptance test (FAT) via ZOOM in December 2020.

The event was attended by the distributor for the Bali area, Surya Sanjaya, as well as the end-user, a governmental authority from Bali Island, Indonesia, responsible for drinking water and settlement infrastructure.

After an AVK/InterApp presentation, we continued the virtual FAT by a demonstration directly from the Valcom

factory. Here, the operational and tightness test of one of the desired valves was carried out, and any questions from the customers could be answered and explained in detail.

With support from the distributor and the QS department of Valcom, we passed the virtual FAT and got the final order. The meeting was a success, even more so because it is an important step towards proving our solutions’ competences in the Indonesian market.

ENGAGING THE COMMUNITY THROUGH PRACTICAL EXAMPLES OF RE-USE

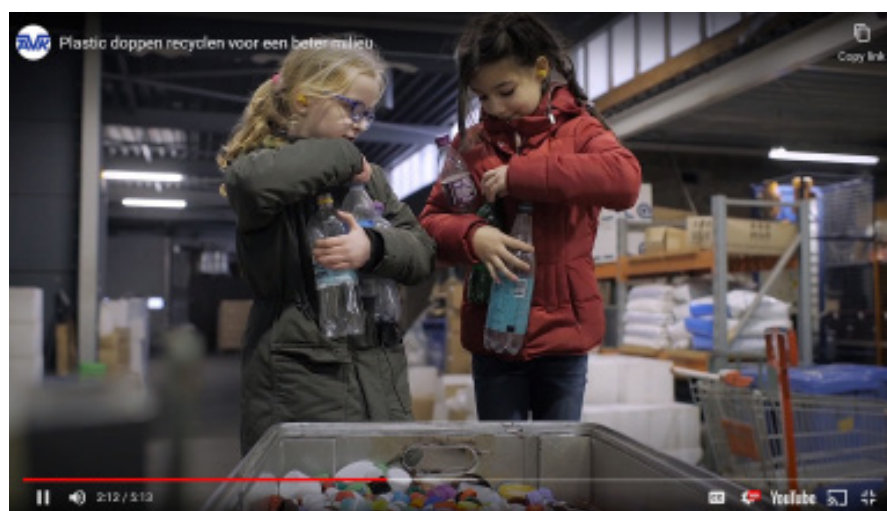
It is the small things in life that matter – especially if you ask in our production, where we build products from tiny, recycled soda caps. In a recent initiative, we have asked our community to help collect plastics and help protect our precious environment.

*By Dana Hofman,
Marketing Manager,
AVK Nederland*

Decades of plastic dumping has left our nature and oceans contaminated and damaged. Luckily, we see many great initiatives to collect plastic waste all over the planet. And once collected, used plastics contain various possibilities of re-entering society as valuable products. When used properly, plastic is environmentally friendly.

Promoting the value in recycling

At AVK Nederland, we recognise sustainability as a factor of vital importance, just like the rest of the AVK Group, and always do our utmost to make a difference in this

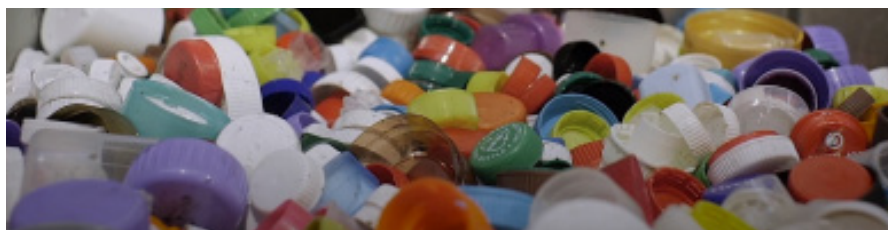


area. Being ISO14001 certified, AVK has committed itself to have a strong focus on continuous reduction on the environmental impact. Therefore, we wanted to show our community how we re-use plastics in the AVK Group, and asked school children to collect even more used plastics for us, so they could experience the process of re-use.

In our video, 'Practical re-use of plastic bottle caps' you can see how AVK Nederland re-use plastic bottle caps and turn them into new quality products. This video is also picked up by AVK International and available in English – find it on our YouTube channel.

Every year, a huge amount of recycled plastic finds its way to our AVK production site in the Netherlands. Here, the plastic gains new life as pallets and surface boxes. At the production facility of AVK Plastics, the plastic is processed into high quality surface boxes and accessories daily. Recycled materials are used in the AVK Plastics production process, creating products that last for decades and which can also be recycled at the end of their life. Additionally this, in turn, also provides savings in cost, energy and materials.

Among many other types, the recycled plastic includes soda caps collected together with students from primary schools in the Netherlands. The young generation is our future, and it is important that they recognise and cherish our nature. It is one thing to remove the unwanted plastic that is scattered everywhere, but it is even more beautiful when plastic waste gets new life as a valuable product. When revived and sold as a new quality product, the lifetime of the "old" plastic is extended with about 50 years.



ANHUI'S BIGGEST PUMP STATION EQUIPPED WITH HYDRAULIC OPERATED BUTTERFLY VALVES

CHINA

Keeping up with the many aspects of a rising population is no easy task. With an upgraded water plant, the city's continuous development can now benefit from a safe, reliable water source.

*By Kevin Ouyang,
Technical Marketing Manager,
AVK Anhui*

With the continuous development of Hefei, the capitol of Anhui, China, the water consumption is too increasing. To ensure a safe water supply and alleviate water shortage, the municipal government has initiated the water supply project from the Modun Reservoir to the Hefei No.7 water plant, which further expands the drinking water sources in the urban area of Hefei.

The water supply project will pass through Feixi County, Shushan District as well as the high-tech zone of Hefei City, starting from Modun Reservoir and ending at the Hefei No.7 water plant. With a total investment of 1,041 billion yuan, water is designed to be transported by two pipes with a single pipe length of about 36 km. The main construction content includes water delivery pipelines, water intake pump stations, housing construction, power supply facilities and related supporting projects.

The water intake pump station of Modun Reservoir is the largest single water intake pump station in the Anhui province, with an enormous volume



and a depth of up to 16 meters; equivalent to the height of five floors in an ordinary residential building. For the central project, AVK has provided hydraulic operated butterfly valves from the equipment selection to site installation and debugging.

Product details

The AVK hydraulic operated butterfly valve has the characteristics of stable performance, safe and reliable functions, a high degree of automation, compact structure as well as convenient layout. Mainly installed in the pump outlet, it can replace the functions of a check valve and switch valve, and is widely used in all kinds of pump stations and long-distance water transmission projects.

AVK provided seven high-quality DN900 hydraulic control butterfly valves to cooperate with their water pumps. According to the pre-set procedure, the valve operation can be divided into two stages of fast closing and slow closing, which can

effectively eliminate and suppress water hammer in the pipeline. All in all, an ideal equipment to uphold a safe and reliable operation of the pump unit and pipe network system.

Today, the water intake pump station of Modun Reservoir has been completed with a daily capacity of 600,000 m³, lifting raw water to the Hefei No.7 water plant and the Da Guantang water plant in Feixi County. It highly benefits the city's economic development and residents' domestic water demand.

Throughout the past decades, AVK's high-quality valves have won the unanimous trust of many water plants in the Hefei area. In previous projects, they have been successfully installed in the Hefei No.2 water plant, Old Hefei No.3 water plant and the newly relocated New Hefei No.3 water plant.

The plants regard AVK as their preferred foreign valve brand, and there is no doubt this was the reason AVK was chosen yet again.

DELIVERING AND INSTALLING THE REGION'S LARGEST CUSTOMIZED PENSTOCK

UEA

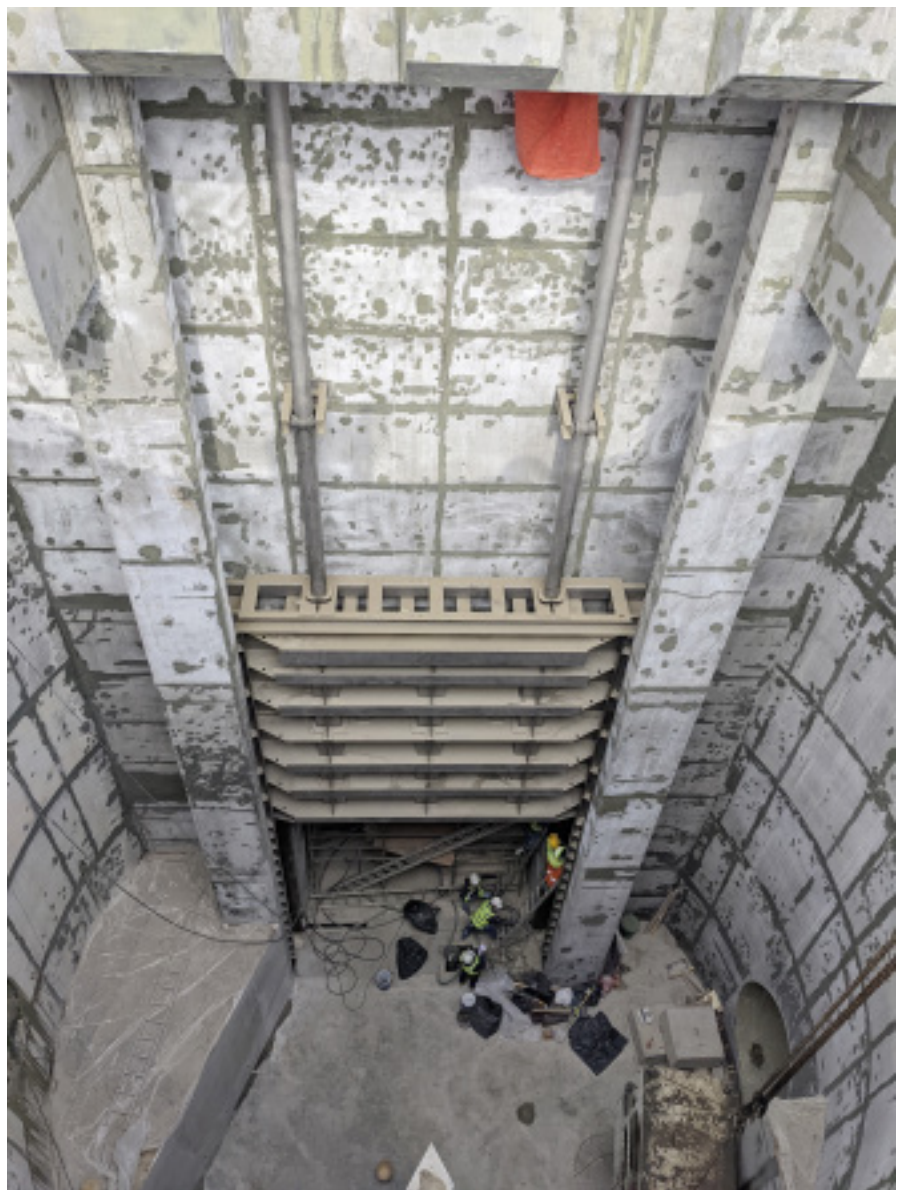
Dubai Municipality has constructed a storm water system to secure a future-safe infrastructure for residents and businesses in the Emirates.

*By Anurima Roy
Marketing Manager
AVK Gulf*

Dubai Municipality is one of the largest governmental institutions in the United Arab Emirates. Over the years, it has assisted in making Dubai one of the most advanced and sustainable cities in the world.

In September 2017, the municipality undertook the construction of a deep tunnel storm water system that will provide the needed infrastructure to serve Dubai's growing residential and business communities. The aim of the project is to protect the area's homes and businesses from flooding and rising ground water in the event of rainfall.

The tunnel will tackle both rainwater and ground water and will drain almost 40% of the entire urban area of Dubai. The area is home to the flagship project of Dubai South, a 145 km² smart sustainable city, the world's largest airport in the making,



Al Maktoum International Airport, the World Expo site and several other emerging developments.

Article continues on the next page >



and anchoring of the gate into its final position was accomplished using specialised jack bolt system – a unique technique for this type of removable penstock. Not only was the AUMA electric actuator designed and manufactured for this project specifically, the door assembly operation uses a combination of twin spindle, gearbox, and actuator, making the solution unique in every way.

The gate was successfully delivered in September 2020 as per client requirement, and installed with millimeters of precision at the worksite within remarkable time frame of two months by December 2020 under expert supervision of onsite engineer Anand Krishnamurthy and Manuel Palomeque Orbinox, Spain remotely.

Product details

The bi-directional penstock stops water from both directions and is able to withstand a water column of 20 meters high and water pressure up to (2 bar). Manufactured in duplex steel, it can also withstand the highly corrosive nature of the ground water and storm water being transported from the pumping station into the sea.

Fun facts

The main pumping station can handle 110 cubic meters of water per second, equivalent to discharging 3,800 Olympic swimming pools into the Arabian sea - every day. The Tunnel has a length of over 10 km, which serves an area of 490 km making it the largest in the Middle East and the Arab world.

The system consists of five key elements:

- A ground water and storm water collection network
- A 12 km long, 10 m diameter and up to 70 m deep tunnel
- A holding pond
- A high efficiency pumping station
- A sea outfall

The main tunnel will convey the storm water and ground water flows to the terminal pumping station on an island in the sea. Two large excavations will be constructed for the large pumping station, and four adjacent gate shaft in the tunnel will connect the two excavations at depth with three piped outfalls that will extend from the terminal pumping station out into the sea. The construction of the tunnel was awarded to the main contractor Besix Contracting in 2017.

means that the door and the frame can be removed for general on-site maintenance at any time. Finally, after several brainstorming sessions, the gate with special retractable frame design, jack bolts and female anchor bolts, all of which can be removed and replaced if required, was devised.

The huge dimensions of the gate came with its own challenges due to the pandemic. The gate had to be transported in eight crates from our factory in Spain. Parts were then fabricated and assembled locally in Dubai within a week, and was finally transported back to the installation site using special transportation vehicles for the installation and commissioning process. The frame was lowered into its final location using a heavy-duty crane with pinpoint accuracy with +/- 2 millimeters. The positioning

The project in detail

AVK's scope of work involved the supply, installation, testing and commissioning of the largest bulk head gate ever installed in the region; a 5.2 m x 5.2 m gate including a removable frame of 11.5 m x 6.5 m in the drainage tunnel leading the water into the Arabian gulf.

After numerous consultations with Dubai Municipality, Stantec consultants and Besix Contracting, our AVK/Orbinox team arrived at a bespoke penstock solution. A specialized bulk head gate penstock to meet Dubai Municipality's challenging requirement of a large gate which is completely removable and serviceable. This



OMV-INDOIL JOINS THE AVK GROUP

GLOBAL



The acquisition of the Croatian-based valve company will complement AVK's product programme for the industrial segments including the energy sector.

*By Finn Langballe
Group Director
AVK Industrial*

The AVK Group has acquired majority shareholding in OMV-INDOIL, a Croatian-based valve company with headquarter in Zagreb. The company was founded 30 years ago by Mr. Tomislav Matkovic, who will continue in the business as a key stakeholder in the development of the company in the new partnership with the AVK Group.

The family-owned company has manufacturing sites in Zagreb, Croatia and in Capljina, Bosnia & Herzegovina, and primarily produces high-performance ball and butterfly valves in various materials. In addition, the company offers a range of special valves and project capabilities to local contractors.

OMV-INDOIL was looking for a reliable, strategic partner to build a strong foundation for growth and to extend the sales network for global business. Therefore, a partnership with the AVK Group was found to be a good match.

The acquisition forms a strong partnership between OMV-INDOIL and the AVK Group, which both companies will benefit strongly from.

The partnership will strengthen OMV-INDOIL's brand and position and will enable the company to benefit from the AVK Group's global setup, reinforce the value proposition and ensure future growth.

Correspondingly, the AVK Group will gain access to a new domestic market and segment. AVK will be able to benefit from OMV-INDOIL's strong brand name in the region, and the new products will complement AVK's existing product programme within the industrial segment. Especially, through AVK's InterApp sales organisations, there will be great cross-selling opportunities. OMV-INDOIL has an interesting growth in the energy sector and delivers to companies such as the Siemens Group, which also opens new doors for the AVK Group with a lot of opportunities for further growth and development.

The AVK Group welcomes OMV-INDOIL and looks forward to a successful partnership.

AVK UK LAUNCHES NATIONAL CAMPAIGN TO FOCUS ATTENTION ON NETWORK SAFETY

UNITED KINGDOM

AVK UK launches a national campaign to raise awareness of the vital importance of network safety.

*By Graham Charnley
Business Development Manager,
Network Safety Solutions
AVK UK*

The campaign focusses on both the physical safety of water company personnel and the protection of vital infrastructure such as pipelines, pumping stations and treatment works. It addresses three of the principal causes of network failure; water hammer, air entrainment and negative pressure.

Water and wastewater networks are expensive to build and challenging to maintain and repair. The safety campaign seeks to provide additional support for water engineers, specifiers and procurement teams to design, specify and procure the correct products to ensure network safety and avoid the costs of compromise.

To help water engineers protect their system, AVK UK will be delivering a series of educational webinars on network safety. The webinars are supported by a comprehensive



Network Safety Solutions brochure and safety technical papers.

Valves in network safety applications are integral to continuity of supply as well as safety. Replacement in this context is costly, time consuming and impacts heavily on customer service.

Engineers specifying the correct AVK valve will minimise maintenance interventions and protect their network. The design of AVK valves operating in network safety scenarios focuses on automatic and trouble-free operation combined with ease of installation and maintenance.

AVK is the safe, reliable choice

These design criteria are underpinned by AVK's longstanding commitment to, and investment in, product approvals and quality systems accreditations. The goal of these approvals and accreditations, supported by AVK's experienced service and technical team, web platform and onsite engineering support, is to provide the reassurance water engineers are looking for to validate their decision to specify AVK valves.

ENSURING SAFE AND CLEAN WATER WITH **THE FIRST PRODUCTION OF DN3000 VALVES**

CHINA



AVK China have been involved in two projects that contribute to enhancing the reliability of safe, clean supply of drinking water to millions of people.

*By Ken Yan
B&D Marketing Director
AVK China*

&

*Kevin Ouyang
Technical Marketing Manager,
AVK Anhui*

More and more cities are facing water shortage and a serious challenge of providing adequate freshwater to their residents. With increasing populations and long periods of drought, they are forced to innovate new ways to ensure safe and clean water supply.

Taizhou Water Diversion Project

This is also the case in the city of Taizhou, China. Here, the city is experiencing water shortage and every drought season, the lack of water has a negative impact on especially the Yuhuan and Wenling areas. Therefore, the city started the Taizhou Water Diversion Project, which includes a water intake project, a raw water transmission project, a water purification plant project, 77

km of water supply pipeline and a total investment of 3.72 billion yuan in the water distribution pipe network. The project will greatly enhance the reliability of the water supply to the 3 million population of Taizhou.

As this project required an innovative and sustainable solution, AVK China was involved. The project presented various difficulties such as a remote installation site, a harsh environment, high complexity of construction and difficulties in product maintenance. In response to this, high efficiency, durability, and low maintenance costs

Article continues on the next page >

were the core considerations for the selection of the right valves. AVK China provided 36 large-diameter double eccentric butterfly valves of DN2400, which meet the highest quality standards, can withstand the harshest conditions, and ensure that the products comply with drinking water certification.

The AVK double eccentric butterfly valves have several features, which all contribute to the high quality of the final solution to the customer. First, the valves have a tilted disc design for extended service life and ease of operation. Second, AVK is a leader in rubber composite and coating technologies, both of which are critical to our products and their life span and durability.

This also means that the valve disc sealing ring is processed by AVK's unique EPDM rubber, which is certified for drinking water and has excellent resilience performance. In addition, the valve shaft seal can be replaced under pressure, which is easy to maintain. This ensures safe sealing from the inside to the outside, and effectively prevents impurities from entering. Finally, the inner and outer epoxy

coatings of the valve are sprayed according to the highest standards - DIN30677-2 and GSK.

First production of DN3000 valves

Another project with focus on ensuring clean and safe drinking water is taking place in India. Here, AVK China are involved in a water supply distribution network project where AVK Anhui have just finished the first production of S756 DN3000 valves.

AVK Anhui delivers thousands of valves for projects every year, but with three metres from side to side, these enormous valves are the biggest supplied by the company to date.

AVK Anhui have overseen the whole manufacturing process which includes machining, shotblasting, coating, water pressure and final assembly. The valves are now on their way to India where AVK India will be in charge of finalising the project. As with the case from China, these very big valves will be used to battle the challenge of water shortage, enhance the reliability of the water supply, and help ensure safe and clean drinking water.

Solutions – not just products

At AVK, we provide our customers with complete solutions and not just products. In that way, we ensure the highest level of quality in every single step – from the selection of the right valves to the final installation and control. We provide a broad portfolio of products, which are combined into specific solutions for each specific customer. We know that if we want to provide durable and innovative solutions, we must adopt leading technologies in every part of the product. Therefore, we are able to provide our customers with a 10-year warranty. This is possible because we are confident in the quality of our products, and because we know that our products live up to our expectations. Even better, we know that they exceed market expectations!

AVK is dedicated to offering its customers the highest safety possible. Our products are part of complex systems handling vital processes every day, such as distribution of tap water and products for food industries, healthcare etc.



PENSTOCK REPLACEMENT AT HYDROELECTRIC SCHEME IN THE SCOTTISH HIGHLANDS

The location some 1,000 ft above sea level, extreme weather and tight manufacturing timescales combined to make Kinlochleven a challenging and exciting replacement project.

*By Wilson McPhail,
Business Manager, Scotland
Glenfield Invicta*



The scheme's history

The Alvalde Aluminium smelting works based at Fort William is the last one of its kind in the UK. Aluminium smelting is energy intensive as the process requires alumina (aluminium oxide) to be dissolved in synthetic cryolite at 1,000°C. The only commercial deposit of the mineral cryolite was in Greenland, but this has now been exhausted.

The Fort William smelting works draws the majority of its power from two hydroelectric schemes: the Lochaber hydroelectric scheme commissioned in 1929 and built specifically for the works, and the Kinlochleven hydroelectric scheme, originally built to supply power to a now non-existing smelting works. Both schemes are now operated by Alvalde's sister company, SIMEC, and in their day were major civil engineering projects.

The Kinlochleven scheme is fed by the Blackwater river's chain of creeks. The Blackwater dam, the longest dam in the Highlands at 948.5m, was constructed in the first decade of the 1900s to create a reservoir.

Water from the reservoir is transported via a 5.6 km long concrete conduit and subsequently into steel pipes that feed the water into the power station turbines. The flow of water into the conduit and pipes is controlled by three DN1000 penstocks. These were originally manually operated.

Made by hand

The Blackwater dam is located in almost inaccessible terrain. Amazingly, the dam was constructed using hand tools by over 2,000 manual workers, without the benefit of mechanical earth moving machinery. Materials were

transported to the site from the wharf at Loch Leven via a 10.5 km cableway.

Challenging conditions

Access and potential exposure to extreme weather events were two of the key challenges facing the customer and Glenfield Invicta on the Kinlochleven project. The penstocks themselves are located almost 1,000 feet above sea level and, during the original construction of the scheme almost 142 mm (5.6 inches) of rain fell in one 24-hour period.

Given the location and weather the customer was keen for the work to be undertaken in one visit. This in itself was a challenge with the penstocks in three separate locations and a short manufacturing time from drawing approval to start on site. Compounding

Article continues on the next page >

all of these hurdles was the Covid-19 lockdown. The project was awarded, manufactured and installed during national lockdown.

Almost 100 years old and still in operation

Glenfield Invicta visited the site and discussed the challenges to be addressed. Glenfield Invicta had worked on the Kinlochleven in the past, and the current penstocks dating back to the 1930s were manufactured by Glenfield. This pedigree, reinforced by a rapid response and a scheme of works that required only one visit to site, led to Glenfield Invicta being awarded the works. The general arrangement (GA) drawings quickly followed, and customer approval enabled the manufacturing process to begin.

From manual to remote operation

The penstocks were manufactured from stainless steel and were fitted with electric actuators to enable remote operation; a major benefit compared to the manual operation of the legacy penstocks.

The installation was undertaken by Glenfield Invicta's full-time penstock installation team, which made it through on time despite significant flooding during the week of the installation.

The works themselves were quite challenging as cofferdams had to be created and water pumps used, to divert the flow of water. A cofferdam is an enclosure built within a body of water to allow the area to be pumped out. This creates a dry working



environment so the work can be carried out safely.

Peter Dodds, Mechanical Engineer at SIMEC, was delighted with the attitude of the team and their drive to get the job done without a need for a second visit:

"The installation team were great to deal with and helped overcome all

problems such as the unexpected rainfall which tested the pumps and cofferdams. The newly installed penstocks have been a great improvement in terms of operation, leakage, and improved safety for our operators."

Wilson McPhail and Jim McAllister, Glenfield Invicta's leads on the project, add:

"The success of the project can be put down to three key factors. Firstly, the customer trusted our expertise and allowed us to get on with the job. Secondly, open communications and teamwork helped smooth project delivery. Finally, the positive attitude of the Glenfield Invicta workshop and installation teams meant we were able to absorb everything that the weather had to throw at us – and it was very wet! – and still complete the works within the narrow time window available to us."



CELEBRATING 50 YEARS OF FUSION

UNITED KINGDOM

By Kelly Hearnshaw,
Group Marketing Executive,
Fusion Group Limited



Fusion was founded on Wednesday, 17th February 1971; starting its journey in a small corner of Sheffield and growing throughout the 50 years to become a global organisation providing polyethylene solutions, worldwide.

In 1971, Edward Heath was the British Prime Minister, Richard Nixon was in the White House, oil overtook coal as the dominant fuel source and two days earlier the United Kingdom had switched to decimal currency.

Chay Blyth became the first person to sail round the world from east to west, against the prevailing winds and the story of Fusion began with its founder Eric Bridgstock, pushing against the tide of traditional pipeline materials at that time, by developing Fusion tooling which played a vital part in the rapid transition to polyethylene pipes as the material of choice for both gas and water networks.

The heart and soul of Fusion for more than forty years was its founder, Eric Bridgstock, who sadly passed away in October 2018. Eric's drive and vision was central to Fusion's success and the open, friendly culture he promoted – 'The Fusion Family' – remains one of Fusion's enduring strengths. Eric drew heavily on the support of his wife, Petra, throughout his years at the helm, particularly in later years when Parkinson's Disease started to take its toll;

'Eric would have been so proud to see Fusion continuing to thrive in its 50th year. After his family, Fusion was Eric's driving

Article continues on the next page >



passion throughout his life. An engineer at heart, Eric was rarely happier than when he was 'hands on', developing new products and manufacturing processes. By nature a quiet and reserved man, the friendships Eric built with colleagues and customers over the years were incredibly important and rewarding.

Eric's daughters, Gemma, Helen and Ginnie, and I look forward to joining in Fusion's 50th anniversary celebrations when a degree of normality returns.' *Petra Bridgstock*

In 2011, Fusion celebrated its 40th anniversary with a bang. The 'Fusion Family' raised £65,000 in its Fusion 40th Charity Challenge with various events and activities throughout the year. You can read about the Charity Challenge and more in the two special newsletters created back in 2011.

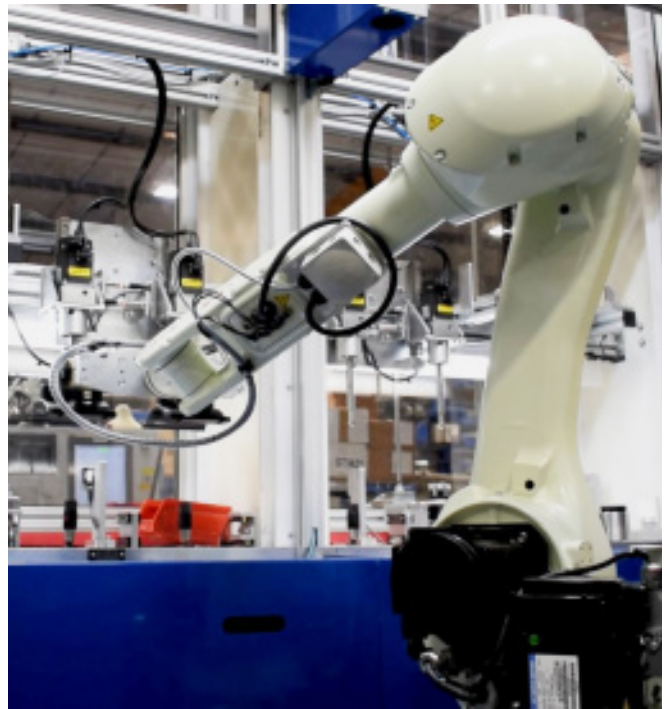
The 'Fusion Family' continues to raise substantial amounts for both local and national charities and since the 40th Charity Challenge, Fusion has raised over £35,000 pounds.

The ten years since 2011 have been momentous for Fusion Group. Undoubtedly, the key event over the past decade was becoming a part of the AVK Group of Companies in 2017. Whilst retaining the key elements that made Fusion so successful – culture, quality and agility – AVK has enabled Fusion to further grow and develop.

Since becoming part of the AVK Group, Fusion has almost completed the first phase of a £4m investment programme focussed on enhancing and extending its manufacturing processes and capacity. In parallel, Fusion has embarked on a journey that seeks to extend lean principles across all aspects of operations.

The investment programme supports Fusion's new product development programme, which is fundamental to Fusion Group's growth plans, with a target of bringing at least five new products to market every year. Recent success stories include large diameter electrofusion elbows and equal tees and extensions to the Multiseal tapping tee and branch saddle ranges.

Fusion has successfully built on the international network of businesses in Australia, Italy, Poland, Malaysia, Indonesia, Egypt and China. They have all experienced significant organic growth in recent years and key to the success has been remarkable staff retention where many longstanding employees have now moved into more senior management



positions; there remains in Fusion the genuine opportunity to progress through the business. To support this level of activity there has been substantial investment in human capital across the board, with a significant growth in Fusion's customer service, marketing, commercial, product development and manufacturing teams.

In addition to the above, Fusion has created strong partnerships with AVK companies around the world including AVK Syntec (China), AVK Norge (Norway), AVK Válvulas (Spain), AVK VOD-KA (Czechia) and AVK Watecom (UAE).

Fusion Group are looking forward to continuing to support you on your customer journey with us, and with our investment in manufacturing, training, recruitment and new product development we are shaping the business to be here for you long into the future.

As the country begins to move out of lockdown, we are looking forward to celebrating Fusion's 50th anniversary with a series of events at a point where we can, details of which will be communicated in due course.



SMART AIR VALVES ON TRIAL

UNITED KINGDOM

Being able to provide crucial feedback on key parameters, AVK UK's smart air valves have been successfully tested in the field.

By David Hurley
Technical Sales Manager
AVK UK

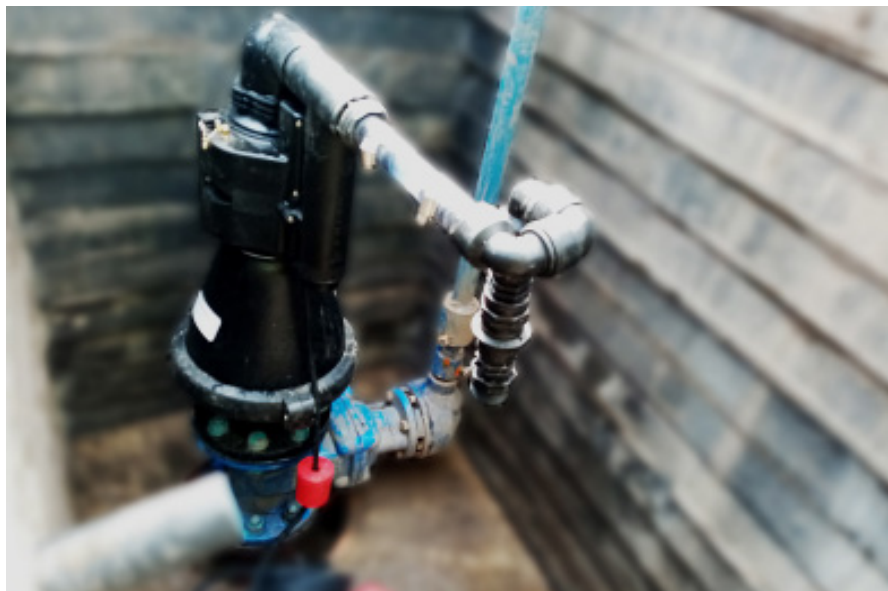
Kilnsey is a picturesque village in Wharfedale, North Yorkshire. It is located just across the River Wharfe from the even smaller settlement of Conistone.

A sewage rising main runs between Kilnsey, where there is a pumping station, and the wastewater treatment works at Conistone. The treatment works considered 'small' by Yorkshire Water as it serves a population of under 2,000. The main crosses the River Wharfe and subsequently runs alongside it for about half a mile.

Protecting the local river from pollution

The undulating nature of the terrain means there are three air valves on the rising main between Kilnsey and Conistone. Two of these air valves are located either side of the river crossing. It is vital that these air valves function effectively. Any faults could lead to the pollution of the River Wharfe, leading to both an ecological problem and the possibility of a fine.

The critical nature of these valves made them an ideal trial location for AVK UK's smart air valves. The specified valves, installed by Mott MacDonald Bentley (MMB), included both internal sensors to track the performance, alert on any faults and record the pressure



of the valve and an external sensor to monitor the water level in the chamber. The chamber was potentially prone to flooding in the event of high rainfall.

The smart air valves provide feedback on a range of key operational parameters. These parameters include: overflow, leakage, blockage, pressure, tampering, tilt/shock, low battery and, with the addition of the external sensor, chamber flooding.

When smart air valves are installed in remote locations where communications infrastructure may be limited, a multi-SIM card is an option. If chamber lids are particularly thick and risk blocking GSM coverage an external antenna can be installed.

Dave Hurley, Business Development Manager – AVK Smart Water, worked alongside Yorkshire Water and MMB to ensure the smart air valves met the requirements of all parties.

The smart air valves are the first to be available in the UK. The sensor and communications aspects of smart air valves means there are far more boxes

that have to be ticked before a water company is willing to trial them. Covid-19 meant the product demonstration had to be delivered online in a 'classroom-based' format.

If any of the sensors, internal or external, is activated, email and text messages are sent to all interested parties. As digital communications are involved, Hurley worked closely with Yorkshire Water to ensure they were confident the smart air valves met their cyber-security protocols.

As it is a trial installation, Hurley received notification of all the alerts alongside Yorkshire Water's engineers, and adds: "The recent heavy rainfall meant the external sensor registered a flooded chamber alert. The internal sensors however did not register any faults, so it was clear the issue was high river level and not a leaking air valve. It was really good to know the smart air valve was doing its job and enabling Yorkshire Water to monitor and react correctly to the problem well before there was any danger to the River Wharfe."

AVK ASSIST: TAKE CONTROL OF YOUR CRITICAL ASSETS

GLOBAL

Through close relationships with our partners, and by listening and responding to their strategies and daily operational challenges, we are able to develop solution led products and services to help resolve industry-wide challenges.

*By Morten S. W. Nielsen
Project Manager, AVK Tech
AVK Holding A/S*

Network management and asset mapping are two areas highlighted as ongoing issues in the majority of utilities' strategies. The AVK ASSIST mobile app is a handy toolbox on the journey towards a resolution.

The app is aimed at gas and water network engineers, and is made up of four key elements which will help specify, select and track the installation quality and GPS location of the asset.

The AVK ASSIST app is free and is available for download in App Store and Google Play. It has now been launched in the UK market and our intentions are to include all our markets globally.

AVK INSIGHT

A mobile-first, paperless solution for tracking all your installed assets.

- Get a complete overview via installation images, QR code and GPS pin location

A valve's QR code is generated after it has passed all tests and checks. The QR code links to the valve's full material and test record history, and once installed, you can trace the full journey of the valve from raw material to its installed location.

AVK AR

- Use augmented reality to really get inside our product offer.

AR and 3D modelling in general are becoming more and more important within all fields of engineering. Product understanding and BIM project designs are accessible through this portal.



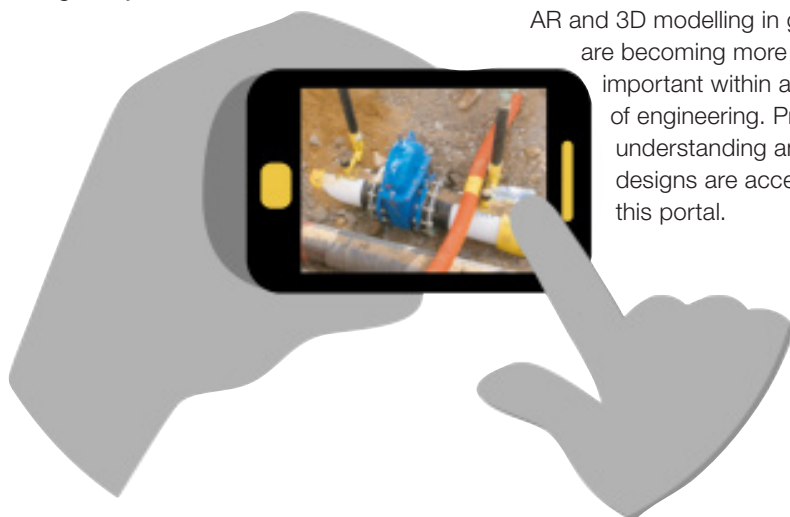
AVK TOOLBOX

Simplify your planning via our offered tools such as calculators for:

- Flow
- Water loss
- Pressure loss
- Energy Consumption
- CO2 emissions

AVK INFO

Get access to a global locator of our AVK facilities, so you can easily locate where to get a hold of AVK support. Here, you are also able to get insights to us as a company, our history, business values and the like.



DENMARK SHUTS DOWN ON OIL AND ESTABLISHES ENERGY ISLANDS

DENMARK



Courtesy of Energistyrelsen

To help reach the ambitious goal of lowering CO₂ emissions with 70% by 2030, two new energy islands will significantly boost the country's green energy production.

*By Michael Ramlau-Hansen,
Global Brand Manager,
AVK Holding A/S*

The two energy islands

Approved by a broad majority of the Danish government in 2020, it was decided to construct two new energy islands to supply Denmark as well as our neighbouring countries.

One will be the island of Bornholm, which is situated in the Baltic Sea and is home to around 40,000 people. The island will be a physical hub for wind farms with a capacity of around 2 GW.

Article continues on the next page >



Courtesy of Energistyrelsen

The other will be an artificial island placed some 80 km out in the North Sea. The island will serve an offshore wind farm with an initial capacity of around 3 GW; enough to cover the energy usage of around three million European households.

The offshore island will be created as a floating caisson. It will help bring forward the strong Danish competences within project development, technology, finance as well as innovation and green export.

“With this decision, we are creating the framework for a crucial flagship project in the green transition. Not just for Denmark, but also for Europe and for the rest of the world. Today

we have taken an important step from vision to reality.” – Dan Jørgensen, Minister of Climate and Energy.

The final design has not been agreed yet, but an island big enough to handle 3 GW is expected to be at least 120,000 m² – equivalent to 18 soccer fields. In time, the capacity will be expanded to as much as 10 GW, which is enough to supply over 10 million households.

Harvesting the wind for a reliable supply

On days with heavy wind, and where the need for energy is low, the wind can be converted into hydrogen or other renewable carriers, which later on can be used for energy production; a

process called power-to-x, which can replace our need for fossil fuels. When the technology is sufficiently mature, the conversion of power-to-other-energy-carriers may even happen at the energy island. This will save costs when transferring the energy to the end-user on shore.

The island will be equipped with technology to transform the green electricity into fuels for shipping, airfreight and trucks.

Where does AVK come into the picture?

The islands constitute yet again a great example of a situation where our gas valves can contribute. According to calculations from Energinet.dk (Electricity and natural gas, Denmark), it is cheaper to construct a hydrogen pipeline between the energy island and the mainland than to install a power cable on the seabed. Here, we can offer solutions regarding transmission and correct pressure in such a pipeline, both with our traditional gas valves and with our high pressure rated ball valves from TecArtec. Our total gas valve portfolio ranges from PN7/DN50 to PN420/DN1400.



AFTER-SALES SERVICE VIA SUB-APPLICATION

CHINA

AVK Shanghai optimise their after-sales relations via a WeChat's Mini Program, with multiple benefits for customers and the sales team.

By Ken Yan
B&D Marketing Director
AVK China



Digitisation and strong after-sales relations have always been the focus of attention in the process of our market strategy. Improving the quality and efficiency of our services will help us enhance our competitiveness and even better meet our customer's needs.

Therefore, AVK Shanghai has developed their own after-sales service mini program with the technology of Ali Cloud and WeChat according to actual service requirements. The software was launched in October 2020 after four months of development. The software interface is user-friendly, easy to understand and the management process is simplified and mobile.

The AVK mini program can be used without downloading or installing. It realises the dream of "the app within reach". The user can open the app by scanning a QR code or searching the related content in WeChat. For enterprises, WeChat Mini Programs have been widely used as they offer an easy, convenient way of achieving two-way communication and building good customer relations.

Customised modules are developed based on user functions in daily business (customer, sales, after-sales engineer, after-sales manager), mainly including rapid reporting of repair and commissioning, work order management (task assignment and acceptance, sign-in, statistical

analysis), data storage and sharing of on-site photos and videos.

Real-time control of the service processes can be realised, and task progress can be checked anytime and anywhere for convenient management.

At the same time, both managers, after-sales staff and customers can share the platform to achieve efficient collaboration. Thus, we can effectively reduce our own management costs while improving customer satisfaction.

Key benefits of the after-sales service app:

Customer

- Quick response
- Process tracking and notice
- Cost transparency

The AVK sales team

- Timely task allocation
- Monitoring and control of the entire processes
- Business data collection and storage
- Personnel performance evaluation

WeChat is a Chinese multi-purpose app including messaging, social media and mobile payment functionality. First released in 2011, it is one of the world's largest standalone mobile apps with over 1 billion monthly active users. It is possible to build sub-applications, or so-called "Mini Programs" to the app, that provide advanced features to users such as e-commerce, task management, coupons etc.

AVK VOD-KA SHOWS OFF BEARDED TEAM SPIRIT

CZECH REPUBLIC

A common, good cause is great for boosting the engagement – not just between coworkers, but also with partners and customers. Even more so, when it regards critical issues in our society.

*By Tomáš Slavata
Project Engineer
AVK VOD-KA*

During November 2020, it looked like we were going back to the 80's at the AVK VOD-KA headquarters. Most of the male staff took part in the Movember initiative, joined the AVK VOD-KA Movember team and grew a moustache.

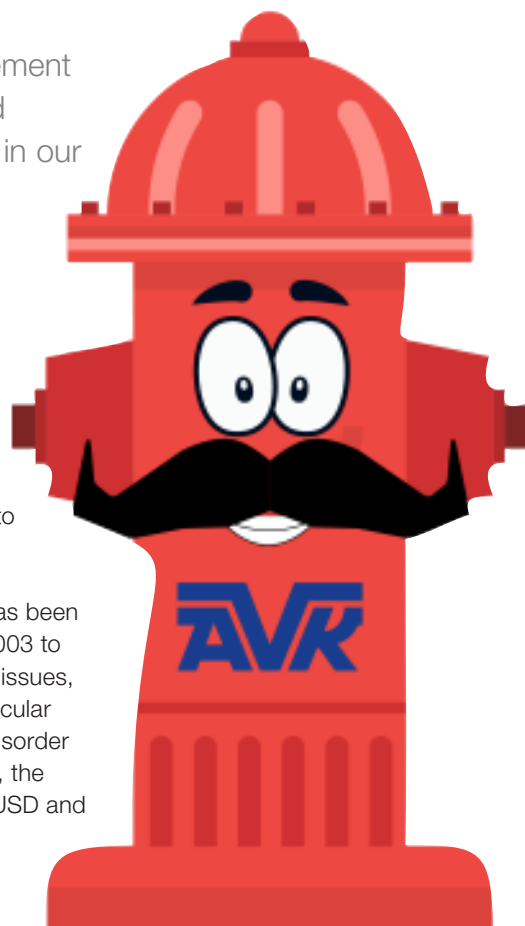
The Movember Foundation

Movember is an annual, month-long charity event to raise awareness about men's health issues. Participants let their moustaches grow throughout the month of November, and supporters can donate to the cause in their name. For those who cannot grow a moustache, or i.e. for female participants, it is possible to run or walk 60 km over the month, which some of our colleagues did. The 60 km refers to the 60 men we lose every

single hour across the world to suicide alone.

The Movember Foundation has been running charity event since 2003 to create focus on men's health issues, such as prostate cancer, testicular cancer, depression, bipolar disorder and suicides. Since inception, the foundation has raised 837M USD and funded over 1,200 projects in more than 20 countries.

Our customers, who greatly appreciated our involvement in this initiative, helped us support Movember with their November orders. We are very pleased that our team was able to contribute with 26,182 CZK to Movember's account. Our team thus ranked 21st in the Czech Republic. We believe that this year's participation



will be even more abundant and that we will be able to raise more for the foundation. And of course, we are already looking forward to the beautiful moustaches on our faces.



COMPETITION



We are happy to announce that the winners of the competition in AVK InterLink no. 54 are:

- Elsa Shao, AVK Valves (Anhui) Co., Ltd.
- Prem Sankar J, Dutco Tennant LLC
- Kristin Eftang, AVK Norge AS

Gifts are on their way.

The correct answer is: AVK's 80th anniversary will be celebrated in 2021.

New competition:

What is the size of the largest bulk head gate ever installed in the Dubai region?

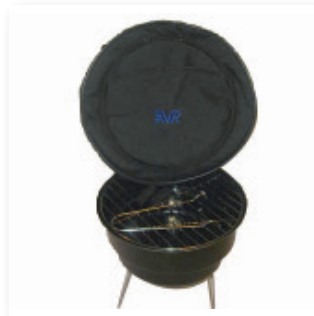
Send an e-mail with the correct answer in which you state your address and the gift you would like to receive – if you win.

E-mail to: lios@avk.dk

Choose between:



Beach towel with AVK valve



Picnic grill in a cooler bag



Ocean bottle

AVK Holding A/S

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