EXPECT STORIES FROM THE AVK WORLD

Expect... AVK

DEAR READER

My focus on the UN sustainable development goals continues because to me, these goals are extremely important to end poverty and protect the planet. Water is a scarce resource made worse by an increasing population and poor water management. And the past years have indeed been characterised by an increasing population in some of the largest cities in the world, and exploding urban population growth creates urgent and unprecedented challenges for the provision of water and sanitation.

UN goal number 6 is about providing clean drinking water and proper sanitation for all. It is our responsibility to help countries with instable water supplies or no water supplies at all. I believe that the more focus on these issues, the sooner we realise the importance and the necessity of acting now. Establishing a water supply or upgrading to a more secure and efficient water supply requires reliable products, including proper sanitation, i.e. wastewater is collected and led to an efficient treatment plant: all of this takes installations that could very well be equipped with products from AVK.

Non-revenue Water
Until now, we have published two brochures describing the aspects of efficient water supplies with a low NRW level. Efficient valves are necessary to establish reliable and sustainable water supply networks. We are presently finalising a new brochure about pressure management by means of control valves, both manually operated as well as SMART valves.

Denmark is also focusing on selling "the Danish water model" abroad in order to increase the export of water related products and services and also to create more jobs. Skanderborg water supply network, located in Skanderborg municipality like the AVK headquarters recently opened the AquaGlobe water hub. The AquaGlobe is a water hub for exhibiting and testing new water products and/or processes, but it will also function as a "classroom" for schools and citizens. AquaGlobe was officially opened on 2 March 2018. See more on page 8.

To continue the focus on the UN goals and also on the International World Water Day on 22 March, we decided to organise a competition for stories about water supply and how to reduce water waste etc.. You can read some of the stories in this magazine.

Enjoy reading.

Michael Ramlau-Hansen

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Frontpage picture
Installation of a series 35/72 hydrant in Tartu, Estonia.

Index

CTS COMPLETES LARGEST UNDER **PRESSURE TAPPING** NEW ZEALAND

CTS (Complete Tapping Service) recently completed the largest known under pressure tapping carried out in New Zealand. The tapping was on a 500mm NB DICL pipe and the tapping size was 375mm. The works were in Te Mata Road, Napier.

By Russell Bruerton,
General Manager,
Complete Tapping Service

The tapping was completed on 19 October 2017 and involved freighting a large tapping drill, power pack, equipment and small tools to Auckland. CTS also had to arrange air-freight for a large MS epoxy coated flanged tapping clamp from the UK to Australia and then into New Zealand. The tapping itself was a complete success, and the feedback from the customer, Monadelphous Engineering NZ, was outstanding. They were very pleased with the quality of the product, materials and the process executed including the dedicated service provided by CTS.

This accomplishment will hopefully help CTS establish a 'beachhead' in New Zealand as an emerging market for its technology and service model. On behalf of CTS, we would like to thank Barry Hewish, CTS Drilling Technician, and Allan King, CTS Business Development Engineer for their continued support, determination and commitment to the project.

WATER TECHNOLOGY ALLIANCE CALIFORNIA

USA

Compared to our foreign colleagues, Danish water utilities are ahead when it comes to technology, planning and know-how. The Danish Water Technology Alliance (WTA) is a strategic alliance which involves Denmark sharing with the US knowledge gained through decades of experience within the areas of water and wastewater treatment technology, energy management and other related issues.

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

Together with the three largest water utilities in Denmark – Aarhus Vand, Vand Center Syd and HOFOR – The Trade Council under the Ministry of Foreign Affairs of Denmark has formed the Water Technology Alliance which is actively supporting the Danish water industry in its US activities and in increasing growth on the US market. AVK has been part of this alliance for the past two years.

The Californian State Water Board decided to take part in reaching a goal set by former President Obama to reduce water consumption in the US by 33% by focusing on non-revenue water in water supplies.

To exchange know-how and experience, a series of workshops have been held in both Denmark and California. During a workshop held in Denmark in September 2017, one of the main topics was pressure management and how to reduce water waste and prolong the service life of pipelines. One water supply in particular, South Taho Public Utility District (STPUD), was very interested in a dialogue with AVK about the possibility of testing the pressure management solution.

In week 12 2018, several workshops were held in California, and American AVK, co-hosted by STPUD, held one of these workshops. During this workshop, STPUD presented its challenges with pressure control and described the selected area in which the pilot project with AVK about pressure management will be carried out. Lake Tahoe is situated 2000 metres above sea level in the Sierra Mountains; the area is a popular ski resort in winter and an area with unique nature experiences and water sports in summer. The consequent multiplication of inhabitants during the year means enormous pressure on both infrastructure and water supply. At the same time, the area is hilly, and even though the entire water supply is divided into 31 water zones (pressure zones) with 24 pressure reducing valves, the pressure on the pipeline is enormous. The pressure reducing valves are manual and thus set with fixed pressure at all times. This may cause fluctuations in the supplynet that damage the pipeline.

Having experienced some serious pipe breaks with significant water losses as a consequence, STPUD was interested in a pressure management project with AVK, and we have thus selected a small pressure zone. Here, we will stabilise the pressure in the pressure zone according to consumption by installing a pressure censor in the zone to monitor the pressure. By means of telecommunication, the pressure censor can send information to the control valve if the pressure needs adjustment.

We look forward to the project which will start this spring.

<table>
<tr><td rowspan="10">SYSTEM INPUT VOLUME</td><td rowspan="4">AUTHORISED CONSUMPTION</td><td rowspan="2">BILLED AUTHORISED CONSUMPTION</td><td>BILLED METERED CONSUMPTION</td><td rowspan="2">REVENUE WATER</td></tr>
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<tr><td rowspan="2">UNBILLED AUTHORISED CONSUMPTION</td><td>UNBILLED METERED COMSUMPTION</td></tr>
<tr><td>UNBILLED UNMETERED COMSUMPTION</td></tr>
<tr><td rowspan="6">WATER LOSSES</td><td rowspan="2">APPARENT LOSSES (COMMERCIAL LOSSES)</td><td>UNAUTHORISED CONSUMPTION</td><td rowspan="6">NON REVENUE WATER</td></tr>
<tr><td>CONSUMER METER INACCURACIES</td></tr>
<tr><td rowspan="4">REAL LOSSES (PHYSICAL LOSSES)</td><td>LEAKAGE ON TRANSMISSION AND DISTRIBUTION MAINS</td></tr>
<tr><td>LEAKAGE AND OVERFLOWS AT STORAGE TANKS</td></tr>
<tr><td>LEAKAGE ON SERVICE CONNECTIONS UP TO POINT OF CONSUMER METER</td></tr>
</table>

In order to focus on water loss and NRW, the American government has decided that all major water supplies must report their water loss. The report must be based on IWAs water balance model. For now this agreement is voluntary.

NO THREAD? NOT A PROBLEM WITH **AVK SUPA LOCK™**

SLOVAKIA

The East Slovak water company, VVS a.s. Košice, is one of AVK International A/S' most important customers in Slovakia and thanks to our distributor, AQUAGAS spol. s.r.o. and its regional representative, Ing. Marián Lazár, the water company is constantly expanding its line of AVK products.

By Marián Drahovský,
Promotion Consultant, Slovakia,
AVK International A/S

VVS a.s. Košice supplies drinking water to nearly a million inhabitants every day. In total, the company manages nearly 5,500 km of water networks and more than 1,700 km of sewage networks. VVS a.s. Košice is one of the largest water companies in Slovakia and operates in the territory of Košice, Prešov and Banská Bystrica regions supplying drinking water, drainage and sewage treatment to 16 different districts.

We are pleased that VVS a.s. Košice decided to use the AVK Supa Lock™ threadless connection system in Slovakia.

On 17 October 2017, the employees of VVS a.s. Košice, Michalovce plant, Róber Ivan and Daniel Šimko installed a service connection with the new patented AVK Supa Lock™ system. The installation was carried out in the Trnava nad Laborcom district of Michalovce.

What does VVS a.s. Košice expect from the Supa Lock™ threadless system?

The answer is simple – savings:

- Energy savings by reducing water losses at service connections
- Time savings by acceleration and flexibility of assembly
- Cost savings by reducing the cost of excavation work and extending the functionality of the entire system for a longer period
- reduced risk of water contamination.

Eliminate service connection problems with the AVK Supa Lock™ threadless connection system.

AVK HYDRANTS IN TARTU CITY

ESTONIA

Tartu is the second biggest city in Estonia and is often considered the intellectual centre of the country. Especially, since it is home to the nation's oldest and most renowned university, the University of Tartu, which is Estonia's leading centre of research and training and belongs to the top 1.2% of the world's best universities.

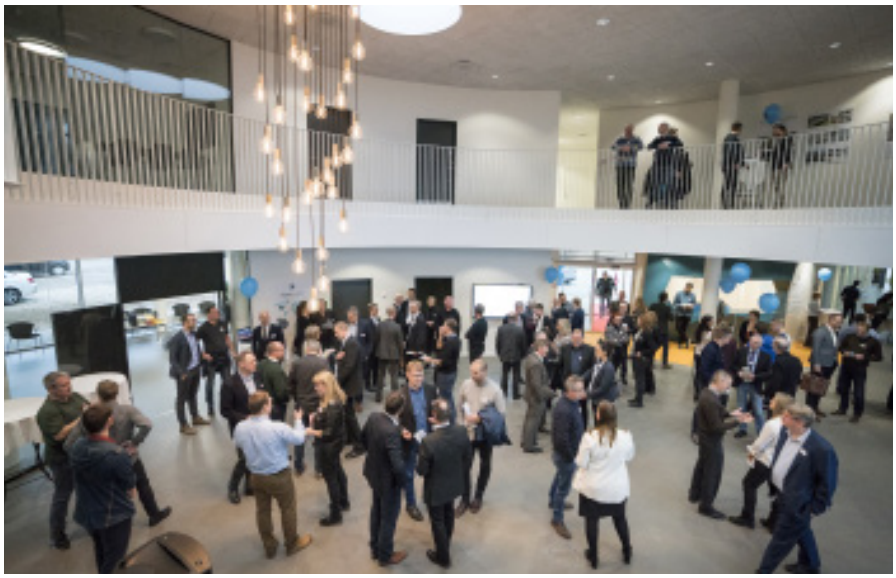
By Jurgis Trams
Product and Promotion Manager,
Baltic States,
AVK International A/S

In Estonia, Tartu is market leading within water supply and the wastewater treatment sector. It is known as one of the cleanest cities in Estonia with drinking water available directly from the tap, and the wastewater is collected and treated strictly according to Estonian and EU norms. Tartu drinking water infrastructure has undergone a thorough development during the past 25 years, also thanks to AVK products used for drinking water and in wastewater systems.

Last year, a new product from AVK was found to be very suitable to replace the old underground hydrants in Tartu city. The AVK series 35/72 hydrant was introduced to Tartu Veevärk AS during my visit with the AVK show bus, and afterwards we received an order from Onninen AS, which is one of the AVK partners in Estonia. The series 35/72 hydrant, which is mainly meant for Russian and Ukrainian markets, also complies with EU standard EN14339:2005 and holds a certificate issued by KIWA. This product has proved itself and is very popular in many cities of Latvia. I truly believe that Tartu's choice of high quality hydrants will spread over Estonia in the nearest future.

AQUAGLOBE – A WATER SOLUTION CENTRE

DENMARK



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

On the outskirts of Skanderborg, the utility company, along with important players in the water industry, initiated the AquaGlobe Water Solution Centre to give the Danish water technology business a place to gather, develop, use and present water solutions and competencies. The AquaGlobe was officially opened on 2 March 2018 with more than 100 invited guests.

According to the UN, half of the world's population will lack access to clean drinking water in 2030. In the EU alone, up to 40% of water is wasted on its journey from the water well to thirsty consumers. Some cities use as much as 40% of the total energy consumption on the handling and treatment of water, while 80% of the global wastewater runs untreated into the natural environment with grave consequences. Indeed, the water crisis seems insurmountable at times.

Denmark already has leading water technology solutions to handle the difficult water challenges the world is facing. The AquaGlobe will contribute to further spreading the knowledge of the Danish water technology and the water business in general by supporting productive working relationships and communicating the knowledge of water as a vital resource in our daily life.

The AquaGlobe will be a water hub for its partners and a test centre for new products and/or technologies. It will also function as a showroom for Danish water technology solutions to which AVK – as well as other partners – can invite customers to see AVK's role in a modern water distribution networks and in energy producing wastewater systems.

The AquaGlobe will also help create value for Danish companies and educational institutions and thus fulfil the Danish water vision 2015 about strengthening education and increasing the number of jobs within water technology.

It is all about increasing consumer awareness and focusing attention on the importance of water in our daily life, and on how each individual can make a difference in securing clean drinking water in future. The future lies in the hands of our children and thus, water and wastewater issues must also be part of the educational system.

Prior to the grand opening of AquaGlobe on 2 March 2018, a competition with four different topics had been arranged in which small

newly-established companies, Skanderborg Utility and partners behind the AquaGlobe joined different groups to provide the best possible solution for each topic. The four topics were:

1: Measuring chemical elements in the water environment
2: Communication to consumers
3: Future waterworks
4: Small-scale circular economy for sludge

AVK joined the group appointed to find a solution to topic 3 about future waterworks, and we were also part of the jury selecting the winner. AVK favoured a solution that created more jobs followed by exports, but the majority of the jury voted for topic 1 about public health, which is basically the foundation of the remaining 3 topics.

EXPECT TO BE WELCOMED BY AVK SOUTH AFRICA

The Constitution of South African states that municipalities have a responsibility to make sure that all citizens are provided with services to satisfy their basic needs; this includes water and sanitation for all.

By Sayuri Papiah,
Marketing Manager,
AVK Valves Southern Africa

Ekurhuleni, formerly known as the East Rand, is an area comprising amazing wetlands, lakes, glitzy casinos, mega shopping malls, quiet nature reserves, lively townships, historical towns and busy office parks in Johannesburg, South Africa. It's also home to South Africa's biggest and busiest airport, OR Tambo International Airport, named after Nelson Mandela's colleague, friend and liberation hero, Oliver Tambo. The Ekurhuleni Metropolitan Municipality is the local authority and government for this region and responsible for ensuring availability and providing sustainable management of water.

In 2016, AVK was selected as a preferred valve supplier to work alongside a leading consulting engineering company to supply, install, repair, replace and commission valves to office parks in the Ekurhuleni area. As you drive to our offices in Alrode, you are welcomed by AVK valves along the roadside including 43/60 resilient seated valves, 41/60 swing check valves and 910/11 Y-Strainers.

In 2016, AVK was successfully awarded a contract for three years to meet the needs of the municipality. By focusing on delivery and service excellence our relationships with municipalities have flourished.

GLENFIELD VALVES – SLOY HYDRO STATION REFURBISHMENT

UNITED KINGDOM

Glenfield Valves Limited was recently awarded a contract by Dales Engineering Services Ltd for overall client Scottish and Southern Energy (SSE) to refurbish two needle discharge valves – one 48" and one 12" on the Sloy Hydroelectric Power Station.

By Jim McAllister, Project Manager, Glenfield Valves

Glenfield
Dams, Reservoirs & Hydro Solutions

In May 1945, construction began on the Sloy Hydroelectric Power Station on the banks of Loch Lomond in Scotland. The power station was completed five years later and was opened on 18 October 1950 by the late Queen Mother It is still the largest conventional hydroelectric power plant in the UK.

The Loch Sloy Dam, built as part of the project, is 56m high and 357m long and raised the surface level of the loch by approximately 47m. The resulting Sloy Reservoir has a 17km^2 direct catchment area, although various pipes and intakes have provided a further 63km^2 of the indirect catchment area. The total volume of water held in the reservoir by the dam is approaching 36 million m^3, and a 3km long tunnel takes water from Loch Sloy to a valve house positioned approximately 197m above the tank. From the valve house, four DN2000 steel pipes carry the water down into the powerhouse that is situated on the west coast of Loch Lomond.

Jim McAllister, Glenfield Valves Project Manager for the project, explained about the valves and the company's involvement.

"The needle discharge valves are the original ones fitted in the 1960s by Glenfield Valves, and it is the first major refurbishment they have had. We still have the original drawings in our extensive technical library that enabled us to understand what was needed for the refurbishment."

The valves were originally removed by Dales Engineering Services Ltd and were delivered to our workshop. From there, the Glenfield Valves engineering team was able to remove

and replace the bronze seat and face rings on both valves. The most challenging aspect of replacing the seat and face rings is ensuring that the "bedding" or "lapping" between the seat and face rings was accurate. This is done by hand and is a highly skilled process; one which is fundamental to successful and cost effective valve refurbishment.

Jim explained: "During the assembly, we have to rebuild all the gearing within the valve and replace the bronze piping for the grease lubricating pipe. We then have to undertake the "lapping" element to match the seat faces – this is also carried out by hand. It entails introducing a marking dye on one surface and then closing the valve until the two surfaces are engaged. This indicates the high points on the surface that have not been dyed. It is then that the most intricate and skilled aspect of the works takes place. The engineer fitter has to file or grind the surfaces by hand until they are completely engaged and 'drop tight' – no leakage whatsoever!

The valves are then fully assembled, painted and hydrostatically tested.

We received a visit from the Dales Engineering Services Limited and SSE engineers who witnessed the successful testing of the valves post refurbishment. The SSE engineer commented that he looked forward to another 50 years of successful operation."

AVK REWAG WEBSITE LIVE

THE NETHERLANDS

In early 2018, the new website of AVK Rewag was launched: www.avkrewag.com.

By Dana Hofman – Dooijeweerd Marketing Manager, AVK Nederland B.V.

AVK REWAG (REpairing WAter and Gas) has been the production facility of AVK Nederland BV since 1999. Rewag produces stainless steel repair clamps, couplings, tapping saddles and the REPICO® program. The new website has been developed to give customers easier online access to Rewag products. In the coming months, the website will be extended with case stories and SEO optimised (Search Engine Optimization).

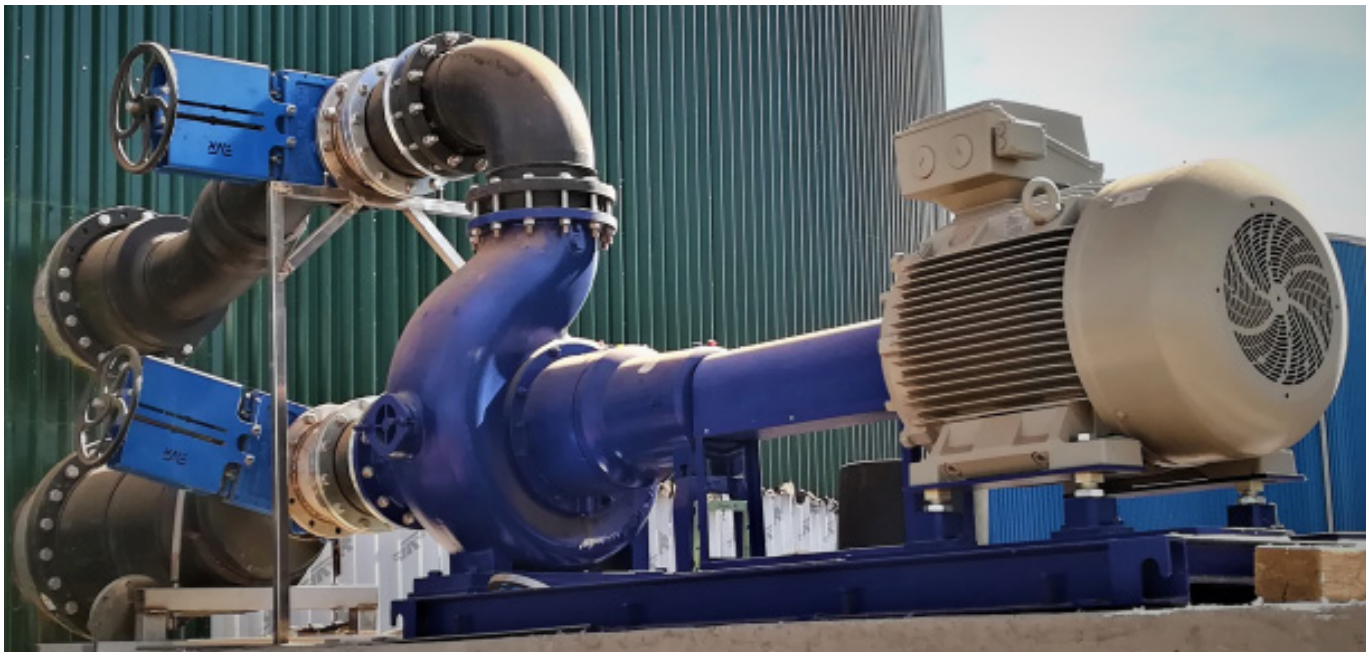
New products

Of course the new Rewag products, such as the REPICO® couplings, repair clamps and the QR transition couplings have a prominent place on the website. You can watch animations, download technical documentation beneath the products or on a separate download page.

Rewag expansion

The expansion of the factory of AVK Netherlands, location Rewag, Schorsweg 1 in Vaassen is finished. The building is ready and now the new production machines and test stands will be delivered. In the expanded part of the factory, the fully automated production line for AVK REPICO® products will be operated. The total production capacity of Rewag will increase by 30%.

AVK PRODUCTS IN LARGE BIOGAS PLANT GREECE



The largest biogas power plant in Southern Europe, Selected Biogas Farsala S.A., has completed the mechanical phase. AVK International A/S delivered CYL knife gate valves and hydrants series 84/93 for the plant.

By Nikolaos Simos,
Product & Promotion Manager,
Greece,
AVK International A/S

Waste from animal farming is accused of contributing to global pollution. Therefore, global efforts are made to minimise the negative environmental impact from the processing of waste and its transformation into energy through power plants operating with biogas generators.

In Greece, where animal farms are mainly small sized, it is assessed that 17-20 million tonnes of waste are created annually, corresponding to 350 MWh of potential energy production according to experts.

The largest power plant using biogas as fuel in Southern Europe is currently under construction in Thessaly, Greece, in an area of 70 acres. The plant, Farsala S.A., is a member of Epilektos Textile Industry, entered the commissioning phase in January 2018. The capacity of the plant is 5.252 MWe and it will primarily utilize 300,000 tonnes of livestock and agricultural waste from 100 nearby farms and processing units contributing to the improvement of the environmental conditions in the entire region.

The technological innovation of the plant is the capability to utilise waste from three different sources: animals, crops and food leftovers, if necessary.

Furthermore, the biogas plant will resolve waste management issues, especially those of livestock farms (pig, poultry, etc.) which are today facing fines and other penalties due to the uncontrolled disposal of waste in rivers and other nearby rural areas. The total investment amounts to 17,5 million euros with a payback period of eight years, and 50 new jobs will be created.

AVK has been involved from the early engineering phase of the project and has worked closely with the client's project team, thus becoming a valuable and trusted partner.

AVK's scope of supply for this project was 230 manually and electrically operated knife gate valves, 33 hydrants series 84/93 including some ball valves and penstocks which contributed to the smooth, accurate and safe operation of the plant.

WORLD WATER DAY CONTEST AND WORLD WATER DAY AWARD

GLOBAL

To promote the Global Water Day, AVK invited customers and partners to take part in a contest that focuses not only on World Water Day, but also on the UN Sustainable Development Goal no. 6: "Clean water and sanitation for all".

World Water Day is held annually on 22 March as a means of focusing attention on the importance of freshwater and advocating for sustainable management of freshwater resources.

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

Among a series of case stories from around the world, the jury chose the story that fulfilled the criteria of the contest in the best way, aiming at living up to as many sustainable development goals as possible, and at least goal no. 6 "Water and Sanitation for all".

Secondly, the jury evaluated the aspects of safe water, avoiding pollution and to what degree AVK products have helped achieve the goal.

The winner is Director, Mr Omer Ozkan for his case story about how to secure the invaluable historical city of Mardin in the heart of the Mesopotamian Plate, by saving the city and the Zergan River from pollution.

We are looking forward to welcoming Mr Ozkan to a fantastic Oyster Safari on the Danish island Fanoe and a visit to the AVK facilities in Galten in week 42.

WINNER

HISTORICAL CITY GETS STATE OF THE ART WASTEWATER TREATMENT PLANTS

TURKEY

The City of Mardin is located in the heart of the Mesopotamian plate and has a history going back to the Neolithic age. The city has a very interesting architectural style. The houses in the city centre are carved into the mountain sides, and transportation in this part of the city is only allowed by donkey and cart.

By Mr. Omer Ozkan,
Project Director,
Mass Treatment Systems

and

Ismail Sincik,
Country Manager, Turkey,
AVK International A/S

For over 1500 years, the city has nourished residents of Armenian, Kurdish, Jewish, Arabic and Turkish origins. Being a main stop on the Silk Road, Mardin is open to many cultures. The city hosts temples and buildings from the Babylon, Persian, Byzantinian and Ottoman eras and today serves as an open-air museum.

The historical city is famous for its silver workmanship and temples, but wastewater management was not developed until recently. The city's wastewater was discharged into the Zergan River. With help from an EU-led IPA fund (Instrument of Pre-accession Asistance), the Municipality of Mardin invested in two state of the art wastewater treatment plants for the city.

48 km of wastewater transmission line and two wastewater treatment plants were constructed by the contractor Mass Treatment Systems. The plants will serve 613,000 people and will enable the reuse of 46,5 million m^3 of water for irrigation.

The state of the art plants are serving multiple purposes at the same time. The plants are designed with integrated electricity generation units using methane to reduce carbon emissions. Treated water will be released through the Zergan River to recover the riverbed habitat.

The city will benefit from the wastewater treatment plant investment in four remarkable ways:

- The city's wastewater is treated and contamination of the Mesopotamian plate is stopped.
- Treated water is used for irrigation and agricultural development of cotton fields in the plain.
- Sludge is used as fertilizer and fuel for cement plants.
- The odour problem in the region is minimised.

These benefits will create new job opportunities for locals, help reduce migration to metropolitan cities and promote developments in Mardin.

AVK valves were preferred in every section of both wastewater treatment plants. The valve scope is varied, from gate valves for wastewater to actuator mounted butterfly valves in process control and high temperature butterfly valves for aeration lines.

For both plants, the contractor's obligation is extended to include the operation of the plant for five years, and Mass Treatment Systems was happy to choose AVK due to its wastewater approvals, durability and the long life time of the valves.

2ND PLACE

THE WATER TREATMENT PLANT VALEA DE PESTI

ROMANIA

By Daniel Preda
and
Cristian Ionica,
Apa Serv Valea Jiului SA

The water treatment plant Valea de Pesti is the main source of drinking water for more than 100,000 people, representing 80% of the total population in the area in Jiu Valley, an area in the southern part of the historical Transylvania region. The raw water comes from a 4.2 million cm^3 storage lake, leaving this station via two DN800 main pipelines. Both pipelines narrow the diameter to DN600 after 11km. The total length of these two lines are 33km and 22km respectively.

This area is special as it was developed as an industrial mining area, and most of the people live in cities. The coverage area for drinking water and sewage is 99%, which is much higher than the average value for the entire country.

In 2011, a major project financed by EU funds started with the aim to rehabilitate and modernise Romania's infrastructure. This project has many stages, and it is supposed to be finalised in 2023.

As no modernisation has taken place since the station was built in 1970, this EU project was the best opportunity to implement new technologies, new materials and to optimise the entire station. This investment was essential and necessary, as there was a risk of discontinuity of the drinking water supply for a good part of population that due to the technical conditions of the equipment. In a worst case scenario, instead of having continuous water supply, it could have been

reduced to just 4h/day with drinking water. The expected result was to achieve a better quality of the drinking water supplied as well as to process and reutilise the secondary products resulting from the drinking water treatment process.

The major gain of this project is that the water resulting from filter cleaning is reintroduced into the circuit through the lamellar decanter, and the resulting sludge is processed in a sludge station and reused for various purposes. After this investment was finalised, the total water loss of this station represents 5%, which is considered technological consumption.

Another major improvement is the valves replacement to increase safety, efficiency, operating time and of course the water quality. The AVK package of gate valves, butterfly valves, dismantling joints, check valves and ball check valves was considered the best solution for this project from a quality point of view. The check valves supplied by AVK are especially essential as previously, there was a risk of mixing drinking water with water used for filter cleaning with a high impact on the water quality. The pictures clearly show the difference between “before” and ”after”.

This project will continue with the modernisation of another two treatment stations, but will also focus on the distribution lines where water losses are still high.

DANISH AMBASSADOR VISITING SAUDI ARABIA AND AVK SAUDI VALVES MANUFACTURING CO.

On 1 March 2018, Danish Ambassador in Saudi Arabia Mr Ole Emil Moesby paid a visit to the AVK Saudi factory in Jeddah where he talked with Regional Managing Director of Middle East Mr Ole Hedegaard, General Manager of AVK Saudi Mr Mads Helge and other members of the Board of Directors.

By Khloud Aiash,
Marketing Coordinator,
AVK Saudi Valves Manufacturing Co. Ltd.

During the visit, the Ambassador had a factory tour, passing by the production sections and learning about valves and fire hydrant products. AVK presented its unique quality systems, testing every single product before it leaves the factory. Likewise, the Ambassador was briefed on the roll out of the AVK LEAN project, which will improve work processes and reduce waste of resources across all departments in the company.

"We highly appreciate the Ambassador's visit to AVK, which underlines the strong cooperation between the Danish government and the private sector. We believe that our joint effort will strengthen Denmark's and AVK's position as a global front runner in providing sustainable high-quality solutions for the water industry in Saudi Arabia, while at the same time continue investments in a strong local manufacturing set-up, which will support the Saudi 2030 vision", says Mads Helge.

NEW WATER QUALITY MANAGEMENT FACILITY AT ASPLEY RESERVOIR TO IMPROVE WATER SECURITY

Seqwater is one of Australia's largest water businesses with a geographically spread and diverse asset base of any capital city water authority. Seqwater delivers safe, secure and reliable water supply to South East Queensland, provides water for irrigation to about 1,200 farmers, essential flood mitigation services and manages catchment health.

By Adrian Kociolek,
Business development Manager

and

Vincent Tripodi,
Marketing Coordinator,
AVK Valves Pty Ltd

Construction of a new water quality management facility and modification to the underground pipelines at the Aspley Reservoir site will improve the reliability of Seqwater bulk water infrastructure and boost the disinfection of treated water travelling from Brisbane with the ability to respond during times of extreme weather.

AVK Valves Pty Ltd was successful in supplying 3x AVK series 756 double eccentric butterfly valves with valve sizing of 1x DN1050, 1x DN1400 and 1x DN1600. These valves required specialised drilling patterns, coatings and materials to conform with the stringent specifications of the project in which AVK Valves Pty Ltd was able to productively modify the existing series 756 to satisfy the needs of Seqwater.

The valves were delivered to site and connected to pre-fabricated pipe lengths to minimise down time during installation. Operated by electric actuators, these units were retrofitted following the completion of pipe installation. Whilst the largest of these units was DN1600, AVK Valves Pty Ltd manufactures the 756 series up to and including DN3000. AVK Valves Pty Ltd was also able to assist Seqwater with the required short lead time for the delivery of the valves to ensure that necessary shutdowns were undertaken during low demand periods.

AVK UK LIMITED SUPPLIES DN800 RESILIENT SEATED GATE VALVES FOR DALMACOULTER RESILIENCE SCHEME

By Wilson McPhail,
Business Manager, Scotland,
AVK UK Limited

AVK UK Limited was awarded a contract for the provision of four DN800 series 55 resilient seated gate valves along with nine series 54 DN900 metal seated gate valves by the Caledonia Water Alliance (Morrison Utility Services Limited and AECOM) on the Dalmacoulter Resilience Scheme for ultimate client Scottish Water.

The valves are the first of their kind ever to have been supplied on a UK scheme having only been available and supplied up to DN600 before this order. Discussions began in early 2016, and the valves were delivered to site in October 2016. The Caledonia Water Alliance, formed by Morrison Utility Services Limited and AECOM, was named in 2014 as the preferred bidder to support the delivery of Scottish Water's water infrastructure element of its capital investment programme.

The contract includes program management, together with the design and construction of works associated with the water networks across the whole of Scotland. This contract includes new assets, renewals, modifications, maintenance and refurbishment of water networks and pumping stations. The Dalmacoulter Resilience Scheme is for the construction of a DN1000 diameter HDPE pipeline approximately 5km in

length running from Cumbernauld to Airdrie.

The pipeline is being constructed in duplication to the existing pre-stressed concrete pumping main to ensure the resilience of supply to 185,000 people.

Wilson McPhail, AVK UK Limited Business Manager for Scotland, explained why the DN800 S55 resilient seated gate valves were chosen for the scheme, “We had worked closely and collaborated with the Caledonia Water Team on the design requirements.

It was established that on two of the DN800 gate valves, there would not be enough headroom for the valves to sit in the vertical position. One of the key advantages of the AVK S55 resilient seated gate valve is that you can install it vertically or horizontally as standard without any modifications required to the valve. This allowed us to easily overcome this challenge by giving the customer the flexibility to install in either position.”

The valves were manufactured at AVK’s state of the art machining facility in Anhui, China.

“The usage of the DN800 S55 not only solved the immediate challenge but also provided the client with other additional benefits. The AVK S55 gate valve has lower operating torque in comparison to a metal seated gate valve which is significant for the gearing or actuator size resulting in cost savings to the client. The valves are designed to be 100% drop tight, and they are the optimum valves for this scheme,” Wilson continued.

AVK UK Limited is continuously developing new products to meet the ever-increasing demand within the sector. Work is already underway for the development of DN900mm and DN1000mm diameter S55 resilient seated gate valves that should be available early this year.

Wilson concluded: “Our development and manufacturing teams constantly liaise with market leaders to identify new ways of doing things and new products.”

RENOVATION OF MAIN WATER LINE IN THE FAMOUS SPA CITY, MARIANSKE LAZNE

CZECH REPUBLIC

VSF Fanta spol. s r.o. is a construction company which mainly operates in the western part of the Czech Republic. The company has been a loyal customer of AVK for many years. VSF Fanta has high trust in AVK, and due to long-term cooperation between ONDEO (Suez) and AVK, VSF uses AVK valves regularly.

By Egon Kunzmann, Managing Director, VSF Fanta s.r.o

In September 2017, VSF Fanta led an important reconstruction work of a DN500 main supply pipe. The project was managed by a foreign investor who had been forced to relocate the main pipeline and replace the fittings as part of the annex of a new building next to the original hotel. The building is located in the former, but famous West Bohemian Spa Triangle. The city Marianske Lazne belongs to this famous West Bohemian Spa Triangle, which also includes the cities Karlovy Vary and Frantiskovy Lazne, and here many visitors have come for spa care. The tradition dates back hundreds of years and has earned a reputation as one of the best spa areas in the world.

AVK's valves and fittings were preferred and installed according to the technical standards of the local operating company, CHEVAK. The choice was based on operational experience with the reliability and functionality of AVK products.

So welcome to this calm but also exciting historical area of the Czech Republic where you can enjoy a relaxing part of your beautiful holiday in Europe with AVK valves under all pedestrian areas.

NON-REVENUE WATER MANAGEMENT IN SOFIA

BULGARIA

Surrounded by sprawling parkland, Sofia, the capital and largest city of the Republic of Bulgaria, is located at the base of the popular ski mountain, Vitosha, in the western part of the country. The city has 1.4 million inhabitants. Being in the centre of the Balkan peninsula, it is midway between the Black Sea and the Adriatic Sea and closest to the Aegean Sea.

By Claus Møller-Nielsen,
Market Development Manager,
AVK International A/S

AVK has been the sole supplier of gate valves for Sofia Water for 20 years, and in the meantime also the main supplier of butterfly valves. As a result of the city's investments, the regulation of the drinking water networks in Sofia has become much more stable, flexible and comfortable for the customers. In case of repair or rehabilitation works in the networks, smaller areas can now be closed and isolated from the rest of the networks thus affecting much fewer households. Besides water losses caused by emptying and refilling the water networks before and after, the repair works have been reduced significantly as well.

The overall reduction of water losses from 62% (1997) to 45% (2016) is a result of complex measures (new water pipes, pressure reduction in the whole networks etc.). In addition, there is also a specific role of AVK valves in improving the technical condition and reliability of the water networks and drinking water treatment plant in Sofia. Since AVK started to sell valves in Bulgaria in 1997, approx. 40,000 valves have been sold and installed, most of them in Sofia.

AVK valves have the highest reputation among management and technical specialists of Sofia Water. Therefore, in the past 20 years, AVK has been chosen as supplier of valves for Sofia.

Sofia Water
Sofia Water supplies water for the inhabitants of the Bulgarian capital and a number of villages surrounding it with a total number of 1.4 million people. The served area has a size of 1,348 m^2, the length of the water networks is 4,075 km and the length of the wastewater networks is 1,600 km. Around 1,200 employees work for Sofia Water. Sofia Water invests approx. EUR 20 million every year in the rehabilitation and maintenance of its drinking and wastewater networks.

AVK S891 PE WAFER TYPE BUTTERFLY VALVES

USA

By Mikel Jaimerena,
Product Manager, HDPE,
American AVK Company

The project

The Wharf mine is an open pit, heap leach operation located in the Northern Black Hills of South Dakota, acquired by Coeur in February 2015. The challenges they face include long periods of freezing temperatures, rugged terrain and unique needs for temporary piping solutions for their operations. The current set of projects was approved and successfully installed throughout 2017.

The specifications

Because of its superior resistance to caustic chemicals, HDPE pipe is used to transport cyanide through the mine. Another main requirement is that the whole system must be able to be disassembled, once the job has been finalised in one area, and reassembled in a new area. For these two reasons, a wafer-type, HDPE bodied valve and HDPE flange adapters with carbon steel backing rings were selected instead of a metal valve or fusible HDPE valve. The purpose of these valves in the pipeline is to control the flow and isolate/shut-off sections of the system with zero leakage allowed.

Larger (up to 12") series 891 butterfly valves are opened completely, once the solution is flowing through the line. If the line is not being used, the valve is kept in the closed position. Smaller, branch valves (4") are operated on a weekly basis to facilitate planned maintenance on the system.

The pressure used along the pipeline is a maximum of 200 PSI, required to pump the cyanide fluid uphill.

The series 891 valves can withstand an extreme range in temperature, which is necessary, as the pipeline is installed above ground, and temperatures range from -20˚F in winter to 100˚F in summer.

"We like this valve better over other solutions we tried in the past, because the disc on this valve opens up completely inside, so there is no need to bevel the HDPE flanges," says Dave Emery – Process Project, General Foreman at Coeur Wharf

Heap leaching

Heap leaching (HL) is the process to extract precious metals like gold, silver, copper and uranium from their ore by placing them on a pad (a base) in a heap and sprinkling a leaching solvent, such as cyanide or acids, over the heap. This process dissolves the metals which collect at the bottom of the pad and are moved on for further processing. This methodology is mostly used for lowgrade ores, and the basic processing steps involve crushing and sometime grinding.

HL is a flexible and constantly developing mineral processing and extraction technology that is gaining popularity and recognition for existing miners and developers. HL has solid advantages over traditional metallurgical methods, where economically feasible options have become limited.

The mined ore is crushed into tiny chunks and heaped to an impermeable plastic or clay lined leach pad, where it may be irrigated with a leach solution to dissolve the valuable metals. Sprinklers, or frequently drip irrigation, are used to minimise evaporation. The solution then percolates through the heap and leaches out the precious metal. This can take many weeks. The leach solution containing the dissolved metals is then accumulated.

The stages for heap leaching can be described as:

1. Ground preparation and pad construction: Here the soil on a slightly sloping ground is compacted and covered by an impermeable pad (can be made of plastic).
2. Ore stacking: Then the crushed ore is stacked in the form of big heaps. The number of fines is decreased as low as possible to improve permeability.
3. Then a leaching agent such as cyanide or acid is sprayed over the heap.
4. As the reagent passes through the heap; the valuable metals get dissolved in it.
5. The solution containing metal is drained from the heap and collected in a pond and the solution is sent for subsequent process for metal recovery.

SHOWBUS TOUR – 8,000 KM ON THE ROAD

HUNGARY

In September 2017, we picked up the showbus for a two-month tour in Hungary. The pace was intense because we wanted to have visited all waterworks with our partners in Hungary (Duna-Armatúra Kft., Euroflow Zrt., Paor-Víz Kft.) by the end of November.

By Tamás Bedegi,
Product and Promotion Manager, Hungary,
AVK International A/S

Today we have 41 public waterworks and around 250 water plants in Hungary. Therefore, the task was not simple, but thanks to a well-organised two-month tour, we managed to visit almost all of the waterworks. During this time, around 1000 people were able to see our products throughout the country. Each participant was given a lecture about the products in the bus. In the course of the two months, I gave the AVK presentation around 110 times.

Overall, we had a successful campaign. It was very useful that we were able to present products which had not been seen on the Hungarian market so far. Our biggest success was the Supa Maxi™ series and almost without exception, this was the most popular product at all waterworks, and many waterworks have already been registered to test it. Keen interest was also seen on our knife gate valves, polyamide surface boxes and service connection valves.

The two months' showbus tour was very successful, and in late January, I started a small, more focused presentation to further popularise the Supa Maxi™ and Supa Lock™ series.

PARTNERING WITH THE LARGEST TELECOMMUNICATION DATA CENTRES IN THE PHILIPPINES

By Ruel G. Estacio,
Product Manager,
AVK Philippines, Inc.

AVK recently completed the supply of airconditioning valves to the Philippine Long Distance Telephone Company (PLDT) for its main data centres in Manila and Clark, Pampanga, and has on-going supply of A/C valve solutions at Cebu Main Data Center, all within the Philippine Islands.

These are major projects for the largest telecommunications company in the Philippines during the present construction boom under the strong leadership of the new government administration. The data centres are located strategically among the 7,100 islands comprising the country, Manila having the largest data capacity followed by Cebu and Clark. The data centres will house all computer systems and associated components such as telecommunications and storage that will run 24/7, 365 days a year and shutdown of the airconditioning system is simply not an option at any given moment. The facilites will also include data disaster recovery systems for back-up operations.

AVK's ICV valve brand bested other American and European brands for the projects after a series of evaluation on specifications, reference projects, quality, reliability and warranty. The order includes gate valves, butterfly valves, balancing valves, ball valves, check valves and flexible connectors. With the present performance of AVK valves, we expect to land more orders for client's retinue of incoming projects.

AVK AROUND THE WORLD

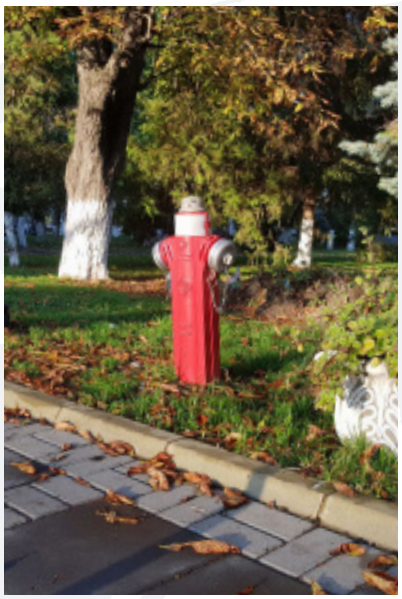
ANEAS XXXI CONVENTION IN MEXICO

By Niels-Erik Andersen, AVK Ambassador, AVK Holding A/S

AVK participated with its partner Hidroval at the recent ANEAS XXXI Convention (27.11-01.12.2017) in Puebla, Mexico.

SERIES 84 P5 HYDRANT, BOTOSANI, ROMANIA

By Felix Gyori, Product and Promotion Manager, Romania, AVK International A/S



Series 84 P5 hydrant mounted in the centre of Botosani, near the town hall. The hydrant was mounted in 2008. It looks quite nice after 9 years!

AVK INTERNATIONAL A/S PRODUCT TRAINING AT THE AVK ACADEMY

Participants at AVK International's bi-annual product training in March.

From left to right:
Henriette Markussen, AVK International A/S
Werner Brod, InterApp Ges.m.b.H.
Ieva Jurova, AVK International A/S, Baltic States
Bo Ellerup, AVK International A/S
Finn Svensson, AVK Sverige AB
Isaac Mensah-Boansi, Interglobal Partners Ltd.
Mikael Nyberg, AVK Sverige AB
Martin Klemencic, InterApp Ges.m.b.H.

COMPETITION

We are happy to announce that the winners of the competition in AVK Interlink no. 50 are:

- Steve Browett, Bryan Donkin Valves, United Kingdom
- Janne Smevold Odberg, AVK Norge A/S, Nrway
- Raoul Roestenberg, Sweco Danmark A/S, Denmark

Gifts are on their way.

The correct answer is: Orbinox knife gate valve

New competition:

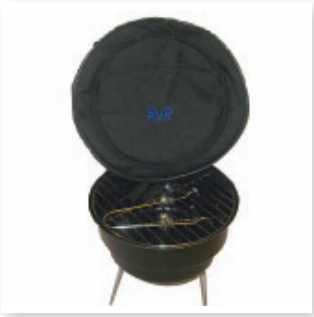
Which product does this enlargement show?

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:

Krenit bowl, black with red or yellow on theinside Ø12.5 cm



Picnic grill in a cooler bag

Glass decanter

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Expect... AVK