EXPECT STORIES FROM THE AVK WORLD

Expect... AVK

DEAR READER

As appears from the articles we have chosen to include in this issue of InterLink, there are different ways to sell AVK products around the world.

AVK in Saudi Arabia has signed a long-term Master Supplier Agreement which was only made possible due to the high service level that AVK is renowned for. Other articles describe how orders have been placed due to product availability or because AVK could provide the correct solution for a given project; and some orders were placed based on the quality of our supply chain and material flow, or because we provide a high level of project counselling. All this, because our customers should expect solutions, not just products. You find an article about one of the more exceptional projects on page 18 describing how Glenfield was asked to refurbish two 109-year-old control valves installed at a hydro power station in Scotland. It is quite unique to find reference and design records that dates back over 100 years.

Following an AVK seminar, a Danish water supply located not far from AVK in Galten contacted us because they experienced repeatedly pipe bursts created by fluctuating water pressure in the distribution network, and thus they were interested in knowing more about our intelligent control valves. You find the article about the series 859 control valves equipped with PLC for communication with the waterworks. Here you can read about the challenges and solutions, and in the next edition of InterLink we hope to bring a case story from this installation along with the first operation experiences.

The United Nations declared 22 March for World Water Day back in 1992. It is an annual event with a different theme every year. This year, AVK Holding A/S joined a cooperation with our local water supply in Skanderborg and Skanderborg handball club for the World Water Day with focus on water, health and sports. In Denmark, it is possible to drink water directly from the tap but unfortunately, this is not the case in many countries around world and that shows us that we must not take water for granted. Next year, the theme for the World Water Day will be “Nature-based Solutions for Water”. I would like to encourage all AVK companies within the water division to send me suggestions as to how we can contribute worldwide in a joint AVK activity.

I hope you enjoy reading the InterLink.

Michael Ramlau-Hansen

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Frontpage picture
AVK knife gate valves with LINAK actuators installed at a newly renovated net energy producing wastewater treatment plant in Egå, Denmark.

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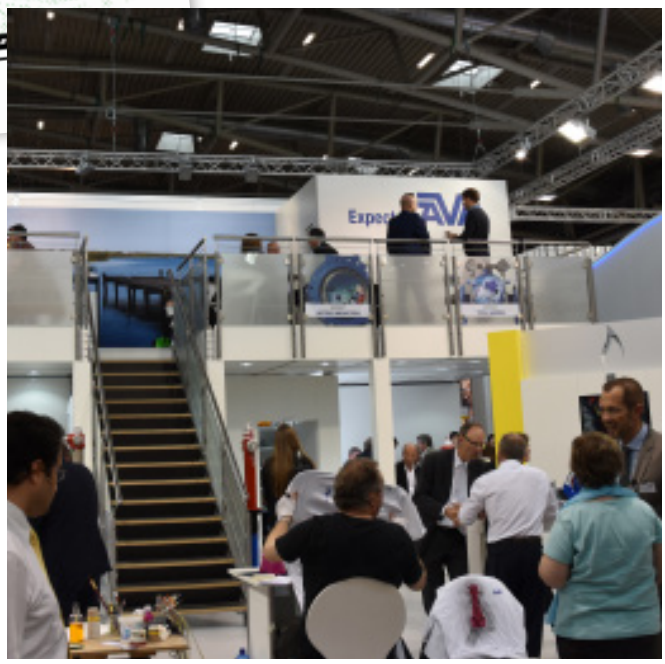
EXPECT SOCIAL RESPONSIBILITY

GERMANY



The ladies of AVK Nederland wearing the charity shirts. From left to right: Thea Hennekes (finance), Amanda Augustinus (administration), Sandra Bonestroo (marketing) and Yvonne Kruisweg (executive secretary/marketing).

AVK Armaturen, AVK International and AVK Nederland team up to support German Childcare against Cancer.

By Ilka Keilen,
Marketing Manager,
AVK Armaturen GmbH

It was the day of Saint Nicholas on 6 December, a tradition that is still widely celebrated by children in Germany, when AVK Armaturen donated the symbolic sum of 777,77 Euro to the „Stiftung Deutsche Kinderkrebshilfe“. This symbolic sum of five times the Lucky Number Seven is not only meant to be a financial support to medical research in the fight against cancer, but also to give the needed portion of luck that can often enough be decisive for the young patients. The sum was collected during two different events and was finally raised to the desired sum.

During last year’s IFAT, a quite respectable sum was collected by selling individually airbrushed T-shirts. When a local and well-known airbrush artist painted on a large number of AVK branded T-shirts and polo shirts donated by AVK International.

Colleagues from AVK Nederland heard about this charity event and without hesitation ordered a number of painted AVK T-shirts for a tennis tournament that took place in September last year.

We thank all visitors and AVK colleagues for buying the special T-shirts and AVK Nederland for their spontaneous support after the exhibition, all having teamed up to make this charity event a success, calling for a repetition soon!

For more info please visit:
www.krebshilfe.de

Deutsche Krebshilfe
HELFEN. FORSCHEN. INFORMIEREN.
Stiftung Deutsche KinderKrebshilfe

AVK PLASTIC SURFACE BOXES IN RIGA

LATVIA

When I was a kid, I used to compete with my brother and sister by counting the cars passing by. All three of us chose a different colour, and of course it was challenging because the amount of cars was not as substantial as it is today.

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

Last week I contacted my niece and asked her to shoot some nice pictures of the AVK surface boxes installed in the roads of Riga city. I sent her some pictures from my archive so that she had an idea of what to look for. She called me two days later and said that she played a game with her boyfriend, called: “who finds the first blue lid?” The bet was a cup of coffee for the winner.

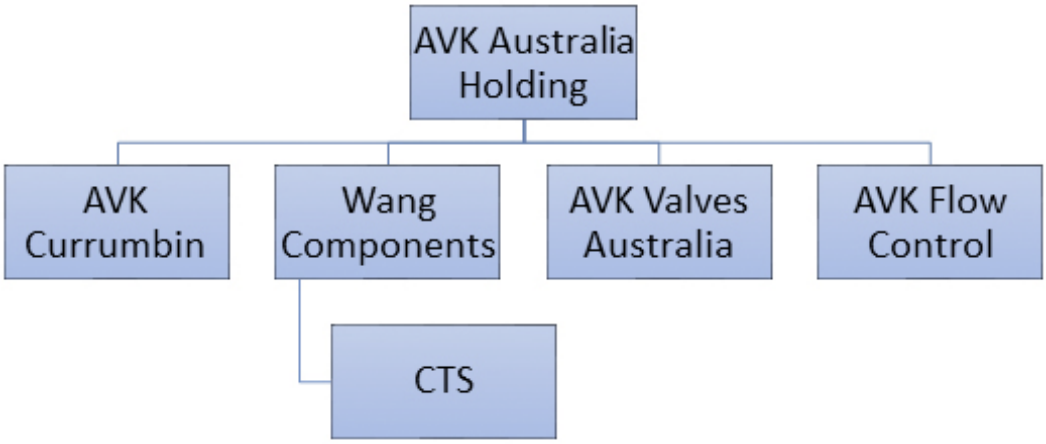
Three years ago, was the first time I presented AVK plastic surface boxes to Riga Water Company (Sia Rīgas Ūdens). They showed great interest, but there were lots of questions. Step by step, we came closer to finding a product that suited their wishes and satisfied their technical requirements. Together with AVK Plastics we donated a few samples so the end user could install and test them in real life. The samples were AVK telescopic H-4056V surface boxes with cast iron lids. However, we did change the lids with plastic ones, securing them with stainless steel bolt and a locking clip. The samples were installed in a heavy traffic area and passed the test with flying colours!

A year after Riga Water Company ordered the first AVK surface boxes, the share of the yearly ordered surface boxes was about 30% plastic from AVK and 70% cast iron from our competitors. This year they are planning to purchase 98% plastic surface boxes from AVK and the remaining 2% cast iron from our competitors.

On the pictures you can see that it looks all right to have the blue plastic lids installed in both tarmac traffic zones and in paved pedestrian areas. In general, you could say that plastic lids gain popularity because they are lightweight, corrosion free and recognizable. But besides that, they are also more aesthetic than surface boxes with cast iron lids and they are unattractive to thieves.

In the end I would like to remind you that if you ever visit Riga, there’s a chance for a game and a free coffee for the winner!

AVK ACQUIRES CURRUMBIN MANUFACTURING FACILITY & WANG COMPONENTS PTY LTD



By Karsten Pedersen,
Chairman,
AVK Australia Group

We are pleased to announce the completion of two strategic acquisitions that will position the AVK Australia Group as the leading supplier of valves and fittings to the Australian and New Zealand markets.

Currumbin manufacturing facility
AVK acquired the Currumbin manufacturing assets from Viadux effective from 1 December 2016. AVK sees this facility as an important strategic asset and will continue operating this facility as an important part of its supply chain. The facility manufactures valves, fittings, flange pipe and street-ware. All the approx. 100 employees was offered transfer of employment to AVK.

Wang Components Pty Ltd
AVK acquired the shares of Wang Holdco Pty Ltd and its subsidiary Wang Components Pty Ltd (including the business of Complete Tapping Services (CTS)) effective from 1 December 2016. Wang and CTS are highly regarded and successful businesses and will complement the AVK product offering. Wang manufacture a complete range of clamps and couplings and CTS is a service company offering under pressure tapping.

Viadux supply agreement
AVK has also entered a long-term supply agreement to provide Viadux with valves, fittings, clamps and couplings.

Both the Wang and Currumbin facilities have highly capable people and we look forward to welcoming them to the AVK team. This is an exciting time for AVK. As a dedicated supplier of innovative high quality valves and fittings solutions, these acquisitions will consolidate the AVK Australia Group's position as the leading valve and fittings manufacturer in Australia. The future structure of the AVK Australia Group is shown above.

AVK TO SUPPLY QUALITY VALVES AND HYDRANTS TO KING ABDULLAH ECONOMIC CITY

SAUDI ARABIA

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

King Abdullah Economic City (KAEC) has signed a long-term Master Supplier Agreement with AVK Saudi Valves Manufacturing Company (AVK SVMC). As a leader within its industry, AVK SVMC will supply the city with its state of the art products as the city continues to develop and expand its infrastructure.

In a move to keep pace with the rapid developments in the city, the new supplier has been brought on for further expansion of the capacity.

"This partnership is a key indicator of the calibre of companies working alongside KAEC in the delivery of a next generation city to support Vision 2030," said Fahd Al-Rasheed, Group CEO and Managing Director of KAEC. "KAEC continues to partner with new best-in-class companies to maintain our ability to provide a premium infrastructure that empowers growth."

With an annual turnover of approximately SAR 2.2 billion, AVK is one of the world's largest manufacturers of valves, fittings and hydrants, focusing its expertise primarily on these core product areas. AVK SVMC has been manufacturing locally in the Kingdom of Saudi Arabia for over 30 years, and supplies projects across Saudi Arabia, Qatar and the UAE.

"AVK SVMC places the support of Saudi Arabia's economy at the centre of its business practices. Offering world-class skills and expertise to Saudi employees, we are currently on track to soon reach Saudisation levels of over 40%. Partnering with KAEC, a city designed to support the growth of Saudi Arabia into the future, is a natural direction for us, and we

Fahd Al-Rasheed, Group CEO and Managing Director of KAEC and Ole Hedegaard, AVK Saudi Valves Manufacturing Company signing a Master Supplier Agreement.

are very excited about the level of sustainable, high quality projects being developed there," said Ole Hedegaard, Managing Director of AVK SVMC. "The new partnership with AVK supports a commitment by both parties to prioritizing the use of high quality domestically manufactured products in the growth of local communities."

"KAEC's continued development is evidence of the power of Vision 2030 to drive an economy beyond oil," said Fahd Al Rasheed. "The advanced infrastructure of the city has been developed in partnership with renowned industry leaders, focusing on a premium level product to increase safety and security for all investors."

About King Abdullah Economic City

KAEC is the largest privately-funded new city in the world. Situated on the west coast of the Kingdom of Saudi Arabia, KAEC covers an area of 181 square kilometres of land, approximately the size of Washington DC. KAEC comprises King Abdullah Port, the Coastal Communities residential districts, the Haramain Railway district and the Industrial Valley. The city is under development by Emaar, The Economic City, a publicly listed Saudi joint-stock company established in 2006.

AVK VALVES AT VODAFONE ARENA TURKEY

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

Vodafone Arena; the new home of Besiktas Football Club, is Turkey's newest and smartest stadium. It was constructed in the place of legendary Inonu stadium located behind gorgeous Dolmabahce Palace. The old stadium had to be demolished and re-constructed due to its ground forces that push the palace towards the sea. The new stadium was planned and constructed to the highest quality possible using the best products available. With its large screens placed towards the viewers and huge inductive heating panels, the stadium offers four seasons of great viewing experience to football fans. The grass has been specially grown for high quality play and irrigated through state of art automatic systems. AVK gate valves were chosen based on their functionality and durability as a key part of this system. We are proud to supply the valves to such a project and we hope that the new stadium brings victories to Besiktas.

RAW MATERIALS PASSPORT WITHIN THE GAS DISTRIBUTION NETWORK IN HOLLAND

By Sandra Bonestroo,
Marketing Manager,
AVK Nederland B.V

Liander, Kiwa Technology, AVK Plastics and AVK Nederland launched a format for a raw materials passport within the gas distribution network in Holland.

The Dutch energy network company Liander has developed a format for a "Grondstofpaspoort" (a raw materials passport) together with the production facility AVK Plastics, Kiwa Technology and AVK Nederland BV.

This raw materials passport was launched during a seminar on 16 February 2017. Managing Director Hendrik Kwakkel of AVK Nederland BV received the raw material passport, symbolically, from Rob Beukeboom, Purchase Director of Liander. The market leader Liander is responsible for the installation and maintenance of the electricity and gas distribution network in most parts of Holland.

According to Hendrik van Zantvoort, Program Manager Socially Responsible Purchasing, "Liander is aiming for a purchase process of products which contains recycled materials, are recyclable and of which the origin of the raw materials is known". AVK, being world market leader within valves, fire hydrants, street covers and accessories, had been asked to fulfil a pioneer's role together with Liander. In close cooperation with AVK Plastics, producer of the synthetic street covers, AVK Nederland is already working

Managing Director Hendrik Kwakkel of AVK Nederland BV received the raw material passport, symbolically, from Rob Beukeboom, Purchase Director of Liander.

in such a way to strive for a circular economy. With help of the Purdie street cover, which Liander purchases from AVK Nederland, the format of the raw materials passport has been developed. The street cover from AVK Plastics addresses the circular economy perfectly as for most part it already consists of recycled material.

Further to the above, the step to a raw materials passport was a logical consequence. A raw materials passport shows the composition of the raw materials in each product and which part (already) consists of recycled material.

These raw materials insight will also stimulate recyclability and the use of as much recycled material as possible. Kiwa Technology, expert in the area of synthetic material, teamed up with Liander and AVK to advise about the format and it's applicability. According to Albert Dokter, Manager of Sales at AVK Nederland, "the raw materials passport encourages a transparent cooperation between supplier and customer. As a side effect, AVK can interpret the vendor evaluations in view of different ISO-standards in such a way that the contents of the raw materials passport can be secured and verified during tenders".

The international English format of the raw materials passport can be downloaded via www.alliander.com

An additional goal for the future is that every supplier starts working with the raw materials passport to eventually track down the source of every product in order to stop child labour in the low income countries and the future shortage in mineral resources in the world.

109-YEAR-OLD GLENFIELD PRESSURE REDUCING VALVES REFURBISHED

UNITED KINGDOM

In 2015 during a visit by Glenfield Valves to Rio Tinto, one of the world's leading global mining and metals companies, Lochaber facility in Scotland, concern was raised over the operating function of two of the original Glenfield & Kennedy control valves. The valves in question were installed in the Kinlochleven Hydropower Plant during its original construction between 1907 and 1910 when the company was owned by the British Aluminum Co.

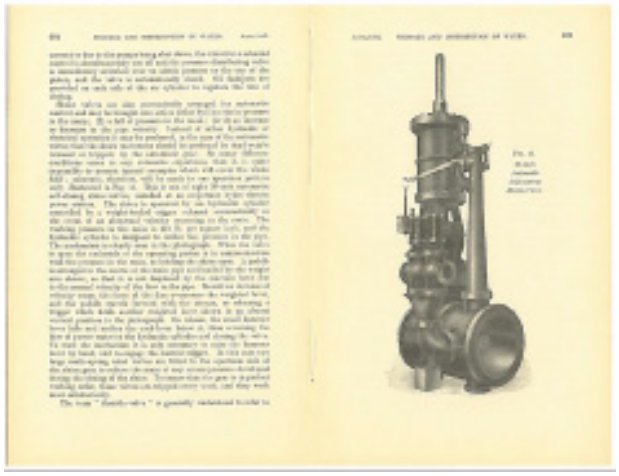
Glenfield was asked to conduct an inspection of the valves to diagnose the problem and report on the feasibility of a refurbishment programme to return the valves to their original condition.

By Greg Morris,
Engineering Manager,
Glenfield Valves Ltd.

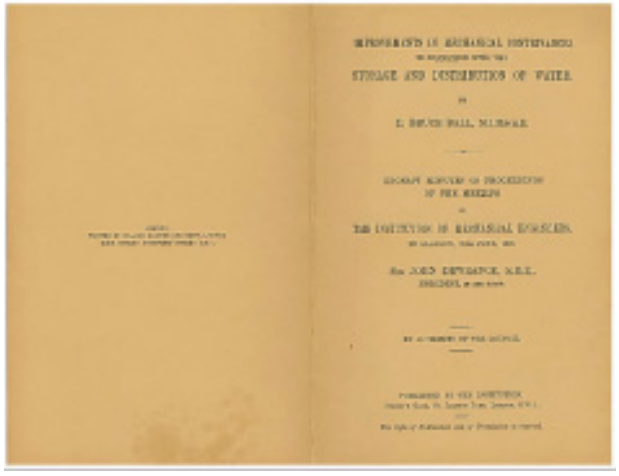
Historical archive records

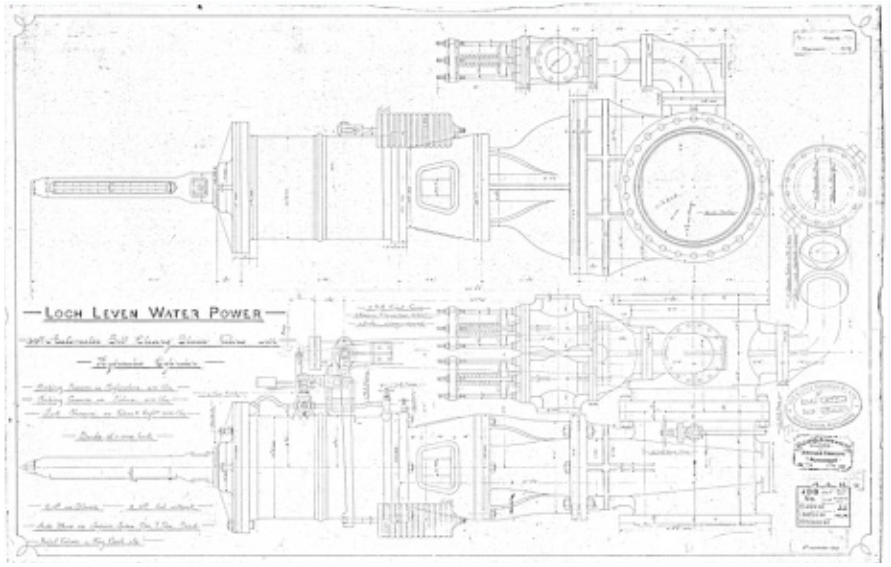
With access to the Glenfield extensive archive library, and with information already provided by the client which included the year of supply and the type of valve, Glenfield was able to trace the complete manufacturing details and design records of the original valves supplied over 100 years ago.

The two valves in question were 9" cast steel pressure relief valves, used to aid the operation of a 39" automatic self-closing sluice gate valve. The sluice gate, operated by a hydraulic cylinder controlled by a weight-loaded trigger, is released automatically in the event of high velocity occurring in the main line. The two pressure relief valves, which are multi-spring design, were originally fitted to the upstream side of the sluice gate to relieve the main pipeline of any excess pressure developed during the closing of the

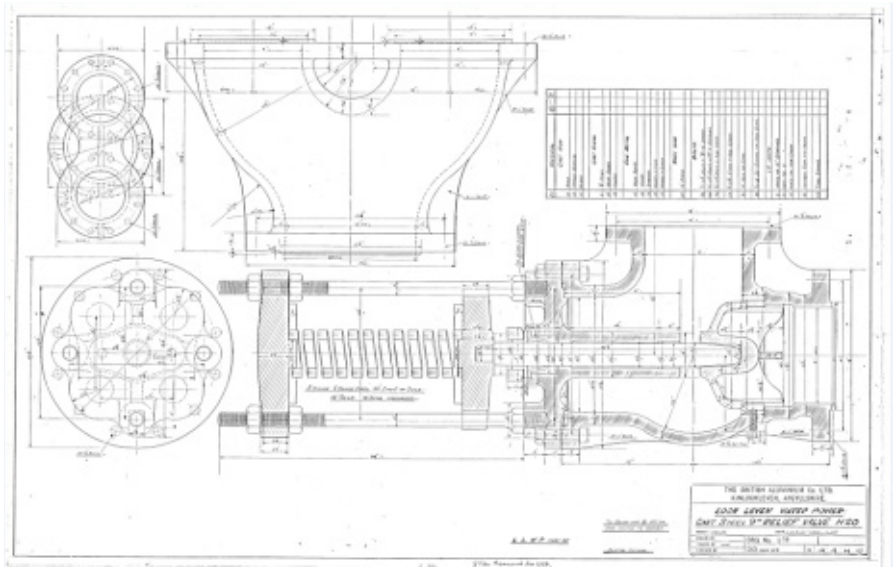


Picture 1: Sketch of the original valve from a 1923 industry publication





Picture 2: Original general arrangement drawing of complete valve assembly



Picture 3: Original general arrangement drawing of 9" pressure relief valve

sluice valve. The pressure rating of the valves is 410 lb. per square inch (28.3 bar).

Picture 1 shows an original sketch of the complete valve assembly that was used at the time as part of a major technical paper on the "Improvements in Mechanical Contrivances in Connection with the Storage and Distribution of Water" presented by the then Chairman of Glenfield & Kennedy, Mr Bruce Ball, to the Institution of Mechanical Engineers in Glasgow in 1923.

Picture 4: Original cast steel body after shot blasting

Picture 2 shows the general arrangement drawing of the valve and Picture 3 is the drawing of the actual pressure relief valve. From this drawing, all components contained in this valve can be manufactured.

Refurbishment

With the historical valve specification retrieved from our archives, Glenfield could now provide the exact replacement components and secure the order to carry out the refurbishment of the first two pressure relief valves.

The valves were delivered to Glenfield's facility in Kilmarnock where they were disassembled and inspected. The main components were carefully shot blasted by Glenfield in-house specialists to expose the surfaces of the raw material. As anticipated, and due to the age of the valves, the original cast steel components showed signs of erosion caused by natural wear and tear over 100 plus years of operation. Picture 4 shows the extent of this erosion.

On further inspection, it was determined that one of the main valve bodies had also been subjected to considerable erosion and was therefore deemed to be beyond economic repair. Utilising the historical design drawings, Glenfield was able to produce a 3D CAD model of the valve body to create a new casting pattern. The pattern was produced in the UK with the subsequent steel casting also being produced within the UK.

All of the castings were then machined to the original valve dimensions.

Continues on the next page >

All non-metallic components were replaced and other components, including the high pressure spring assembly, were reconditioned and returned to the required high quality standard. This included full epoxy coating of all internal and external metallic surfaces (Picture 5).

Picture 5: Refurbished valve

The valves were then reassembled and successfully hydrostatically tested to the original working pressures by experienced GVL engineers. The most important aspect of this test is to ensure that the springs are set to a specific 'blow-out' pressure to ensure the hydropower system safety.

Both valves have been reinstalled into the main pipeline and are working just as they did over 100 years ago.

Complete life cycle

This case study, without refute, demonstrates the extensive durability and life service of the original Glenfield valves manufactured and supplied over 100 years ago. It is testament to the Glenfield & Kennedy designers and employees at that time. The craftsmanship and quality of the products produced have ensured many years of successful operation and, with the level of quality and workmanship that Glenfield and the AVK Group continue to offer today, there is no reason why these valves should not provide a further 100 years of operation.

Glenfield have an unrivaled collection of historical archive information that exceeds 100 years of valve supply. As proven, this information is crucial when carrying out refurbishment work of this nature and ensures the 'new' valves continue to meet the requirements that they were originally intended for. A further ten of the same pressure relief valves are installed on this site and likely to require the same level of refurbishment within the next few years.

IWATER 2016 SPAIN

Iwater was held for the first time on 15 - 17 November 2016 at the Gran Via Exhibition Centre in Barcelona with 127 exhibitors from 10 countries and 50 speakers.

By Vanessa Martinez,
Technical & Quality Office Manager,
AVK Valvulas S.A.

With its global vision, Iwater should be seen as an international meeting point for all the stakeholders who wish to define the evolution of the water sector, offering innovative high-tech solutions that effectively address challenges such as the efficient management of resources and infrastructures, the increase in water demand in a context of hydraulic stress, and new models of public-private collaboration.

During three days, the trade fair of Iwater 2016 became a place of knowledge and inspiration from the very best experts reflecting on three major topics: resilience, governance and finance while generating ideas, practical improvements and strategic vision of the sector to tackle these challenges.

AVK Válvulas had the pleasure of participating in this fair to demonstrate that we are worldwide leaders within manufacturing of valves and accessories for water, wastewater, gas and fire protection.

AVK participated in Iwater together with eight other Danish companies at the Danish stand, and we would like to thank the Danish Ambassador Mr John Nielsen and his entire team for their support.

AVK NEDERLAND TO LAUNCH AVK REPICO THE NETHERLANDS

By Sandra Bonestroo,
Marketing Manager,
AVK Nederland B.V.

It is with pride that AVK Netherlands will announce the launch of our new product line - AVK Repico couplings and repair clamps - during the AVK Continental European sales conference in June 2017.

AVK Repico is a revolutionary expansion of our broad product range of stainless steel couplings and repair clamps. The AVK Repico product range consists of couplings and repair clamps which guarantee not only a fast and simple assembly but also offers an economical and sustainable solution due to the use of high-grade stainless steel AISI316 offering an extraordinary long life time. AVK Repico absorbs vibration, bending, noise and expansion and even saves space thus representing the most up-to-date method of connecting pipes, and it can replace traditional connections such as weldings, flanges, unions and groove joints. AVK Repico is available in various types such as grip type, slip type and hinged repair clamp.

The available dimensions will be from DN15 up to DN2000 with options for either EPDM, NBR, silicone or viton rubber gasket. AVK Repico meets the maximum working pressure standards between 1.4 and 16 bar within the shipping industry as well as the working pressure standards between 2.8 and 32 bar within the industry segment. AVK Repico is approved to a number of international standards and regulations including Lloyds Register, ISO 9001 etc.

With AVK Repico we hope and expect to add value to all AVK companies and dealers as AVK Nederland now offers you the possibility to supply additional products to complement your range of products in your market and to meet the demand of your customers within industry, shipbuilding, gas, wastewater, water and fire protection. In short, AVK Repico is a quick, simple, economical and sustainable solution to boost your sales.

AVK Nederland is highly motivated and fully committed to all the necessary processes from manufacturing, construction and production to the marketing and promotion in order to start the expected first delivery in June after the launch at the sales conference.

A fully automated production line is being designed for the AVK Repico products, and we strive to continue the well trusted AVK quality and reliable and quick deliveries by AVK Nederland.

Control valves FOR WATER SUPPLY

DENMARK

Following a seminar at AVK regarding leak detection and minimizing water loss by means of Control valves, AVK was approached by one of the attending water utilities, Strømmen in Randers, Denmark, which was challenged with pipe fractures due to excessive pressure in the water lines.

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

and

Martin Børsting,
Product Manager, Control valves,
AVK International A/S

The distribution network has a height difference of 40 meters, and the water utility placed in the high end gives a very high water pressure in the lower end of the distribution network. This results in a district within the supply area being exposed to frequent pipe fractures. The consequence of which being heavy repair costs and an increased water waste.

The water utility is already equipped with a SCADA system, but they also wanted intelligent control valves to control the pressure in defined pressure zones based on consumption and circadian rhythm. Also, it was important to the water utility, to be able to close the control valves remotely with their SCADA system. With this extra feature, they are able to close each section very easy and fast, in case of pipe burst. This gives the water utility control of their system and not the other way around.

A flow-meter will be installed together with each control valve. The meter also communicates with the PLC and the SCADA system. This way the water utility is able to detect even small leakages and get an alarm in case the consumption rises, which indicates a leakage.

When control valves are installed with PLC control or another controller, it is possible to lower the pressure and keep the pressure constant, it is also possible to make a time schedule and lower the pressure to different set points, so the pressure during the day would be 3 bar, and only 1.5 bar at night, when the consumption is low.

The task now is to divide the entire supply area into sections and pressure zones, and then control the supply pressure in each zone based on requirements and the build-up area. Next step is to test the valves installed at the borderline of different zones. This to ensure a tight shut-off of the

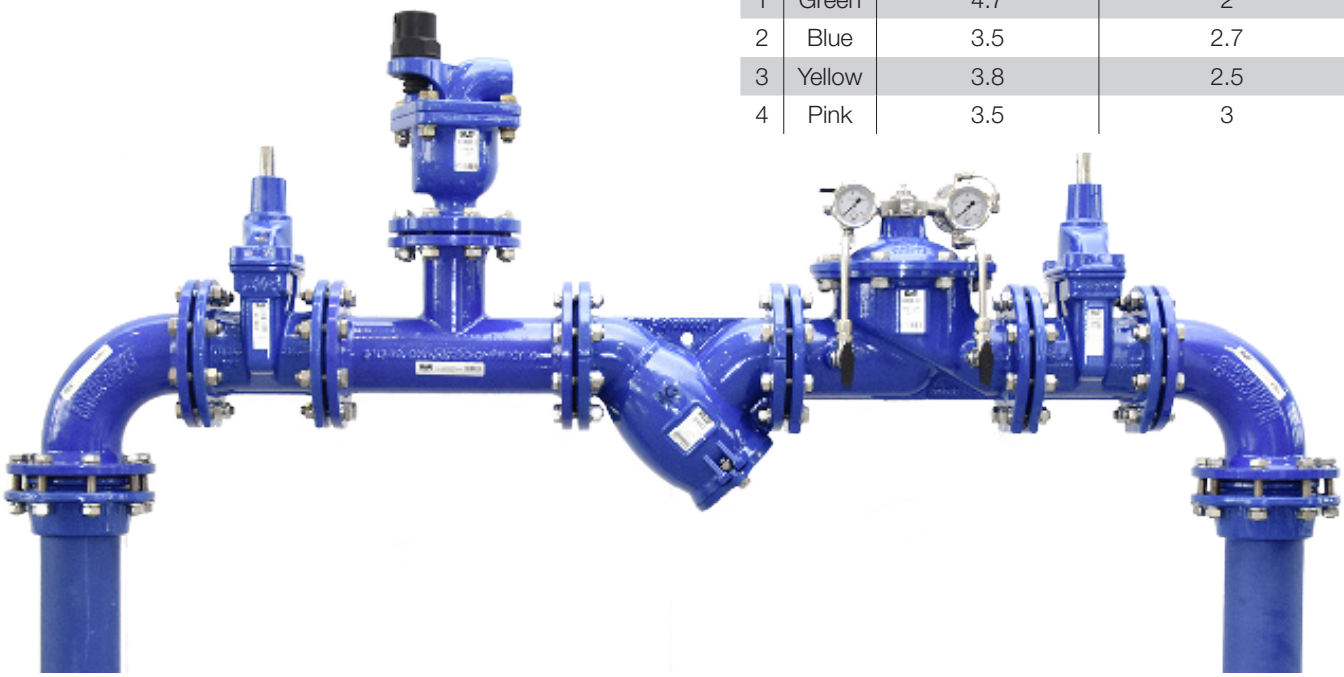
pipes connecting the different pressure zones before the control valves can be installed. If you want to control the pressure within a zone, it is imperative that these valves are tight to prevent pressure from the neighbouring zone interfering the operation, and it is also important that the zone only has one entrance which is operated by a control valve.

AVK delivers control valves series 859 with PLC control prepared for the most common ways of communicating. In this case, it will be by means of a SIM card communicating via GSM. One of the major challenges is to create electricity to run the PLC. Control valves are installed on the supply net with no electricity and therefore, our technicians are working on a solution with a water turbine just big enough to charge the batteries during the hours of full water flow. In this way, the installation is independent of electricity.

In the next edition, hopefully we will be able to tell you more about the onsite installation of series 859 control valves.

Strømmen water supply

Pressure in the four zones in Strømmen			
Zone		Upstream pressure	Downstream pressure
1	Green	4.7	2
2	Blue	3.5	2.7
3	Yellow	3.8	2.5
4	Pink	3.5	3



VALVES AND HYDRANTS ON TWO SCHEMES FOR END CLIENT SCOTTISH WATER

UNITED KINGDOM

Amlaird pipeline gets ready for first connections

The schemes, Gorbals (Corsehouse) Pumping Station for contractor ABV Alliance (Amey, Black & Veatch JV) and Caledonia Water Alliance (CWA), Morrison Utility Services (AECOM), respectively, have a combined value to AVK UK of approximately £1.5m.

By Wilson McPhail,
Country Manager, Scotland & Ireland
AVK UK Ltd

Gorbals (Corsehouse) consists of the construction of a new pumping station and tie-ins to three existing service reservoirs at Drumboy, South Moorehouse, Thornlibank and Amlaird Treatment Works and is part of the £120m Ayrshire Improvement Scheme. It began late 2015 with a project completion date of April 2017 and has a value to AVK UK Limited of approximately £1.2m.

Over 200 valves on the Gorbals (Corsehouse) scheme have been supplied and include:

- gate valves (including gearbox, electric actuators and ancillary equipment)
- recoil check valves
- flow control valves
- air valves
- ball valves
- hydrants

Sizes range from DN25 up to DN1000 with pressure ranges from PN16 to PN25.

AVK UK has been working closely with the ABV engineers and the project manager for the scheme from January 2016 to support and recognise any potential value engineering solutions.

As a result of this, AVK UK provided calculations to change the design from originally specified conventional non-return valves to recoil check valve (reducing a risk of a surge by up to 90%). This was achieved by utilising support from design engineers from AVK UK's sister company Glenfield Valves Limited.

A close collaboration with the ABV project managers and designers has been key to ensuring that the valves and hydrants are 'fit for purpose' and on site at the right time: " We have been working with the ABV designers over the past several months to select optimum valves including flow control valves, recoil check valves for pump protection/surge prevention, and a number of large actuated gate valves. We have used our Glenfield office

(Prestwick), to offer technical support to ABV from our design engineers who have supplied surge calculations, performance curves and other technical documentation including drawings to support our technical offering. This was key to giving ABV the peace of mind to allow them to progress onto the manufacturing and construction phase. Our Kilmarnock assembly and distribution facility was also used to ensure that initial critical delivery dates in phase one were met by using their stock of DN900 gate valves and fitting actuators and gearboxes in just a few weeks which allowed ABV to start some early tie-in work and ensuring they met their initial delivery commitment."

AVK UK also faced a logistical challenge with five different sites for one scheme. It meant that AVK UK and the ABV team had to ensure all deliveries were suitable for each of the five different sites, this included consideration of vehicle restrictions, site access, offloading facilities and other specific delivery rules for each of the five sites.

AVK UK continues to work closely with ABV having daily contact and site meetings. This service will continue right through to the commissioning stage and until the project is handed over to Scottish Water.

The Amlaird Pipeline

The Amlaird Pipeline is 13-mile strategic pipeline running from Newton Mearns to the Fenwick/Waterside area for Scottish Water. The pipeline is being laid by the Caledonia Water Alliance. AVK UK has been commissioned to supply valves for the pipeline which has an approximate value of more than £300k.

Building work starts on the new Corsehouse Pumping Station

The construction of the first phase started in early 2016 with the £120 million investment by Scottish Water in its drinking water network; this will benefit more than 200,000 people and businesses in much of Ayrshire and parts of East Renfrewshire.

The route of the first phase section of water main is being constructed mainly through farmland and open moorland. It starts at Waulkmill Glen Reservoir in the north and goes south to Amlaird Water Treatment Works near Fenwick with branches to the South Moorhouse and Corsehouse water treatment works.

AVK UK Ltd has supplied 69 valves for the Amlaird pipeline and include:

- 9 x DN900 metal seated gate valves, PN16
- 5 x DN900 metal seated gate valves, PN25
- 5 x DN1000 metal seated gate valves, PN16
- 50+ air valves, gate valves and hydrants

The pipeline had a tight delivery program, but working closely with CWA, AVK UK supplied and worked to a delivery schedule with numerous 'milestone dates' giving regular updates to both CWA and Scottish Water and successfully managing to deliver the valves early.
AVK UK supported and value engineered design alterations on

all valves with the integral bypass arrangement being specially altered for this project to satisfy site-specific requirements. This was accepted after the submittal of GA drawings to ensure it met with the designers' expectations and approval. This demonstrated the flexibility and willingness of AVK UK and its designers to offer customer- and site-specific solutions.

AVK UK worked closely with the CWA designers over a number of months to carefully select and locate the air valves across the 13-mile pipeline route using their unique air valve sizing software.

Once each location and size was agreed by both AVK and CWA, a final report was signed and submitted by AVK UK to CWA which was also used by alliance designer AECOM as part of their final hydraulic analysis.

AVK ACHIEVES ISO/TS 2900A STANDARD

Safety-critical products benefit from highest manufacturing standard. AVK achieves the gas sector's first ISO/TS 29001 standard for manufacture of the Donkin gas valve range.

By Jerry Payne,
Quality Engineer
and
Fran Brody,
Managing Director,
Aqua-Gas Manufacturing Ltd.

AVK has, as a leading gas sector supplier, become the first UK gas valve manufacturer to achieve the international standard ISO/TS 29001:2011 for its entire design-to-delivery manufacturing process. Achieved by its Bryan Donkin Valves production facility, this is the highest safety-based standard a manufacturer can achieve in this sector.

AVK invested two years in securing the standard for the Donkin Valves brand, which has been supplied within the global gas sector for over 150 years.

To achieve ISO/TS 29001, AVK conducted a business-wide exercise starting with the design process, procurement and flow analyses at the foundry production stage. AVK has also had to demonstrate how it has eliminated non-conforming products, installed specific preventative activities, imposed a new testing regime for safety factors and reduced variations and waste. It also means that AVK continuously verify and validate the exercises it carried out to achieve the standard.

"ISO/TS 29001 sets the bar very high for the global gas sector and means we will be delivering the ultimate products and service," says MD Fran Brody. "It's especially important in safety-critical components and achieves a whole new level of manufacturing and supply. It's a whole new culture of production-driven, customer-focussed professionalism for our entire team."

"We know that our customers and the regulators see our attainment of ISO/TS 29001 as a key reason to work more closely with AVK, given the fact it eliminates variations and validates our entire product range. It is a clear endorsement of procuring, designing, manufacturing and supplying to the highest possible standards and we are proud to be the only valve manufacturer that holds this standard in the gas sector."

Standard means continuous quality improvement across entire business

ISO/TS 29001 requires manufacturers to develop a continuous improvement regime across its entire business, from suppliers through to product delivery.

As part of the global AVK Group, the Bryan Donkin manufacturing facility already held the ISO9001, ISO 14001, PED certificates and GIS Kitemarks for specific products, but wanted to achieve the highest standard recognised within the gas industry as a means of driving quality up throughout its own business and across the sector.

Quality Engineer Jerry Payne oversaw the entire challenge of securing the standard: "Achieving ISO/TS 29001 demonstrates that AVK takes seriously its commitment to working responsibly and mitigating risk," he says. "It shows a commitment to managing operations safely and effectively within a hazardous industry; it assists with tender opportunities, as the standard can be a prerequisite within the supply chain."

WATER, SPORT AND FUN ALL CAME TOGETHER AT THE WORLD WATER DAY 2017

DENMARK

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

In a joint agreement, AVK Holding A/S and AVK International A/S sponsor local sport clubs, primarily within handball. One of these sport clubs is Skanderborg Handball for both the men's and women's team and with AVK as the primary sponsor, the blue AVK logo decorates the front of their shirts. Both teams play in the best Danish league and thus the AVK brand is very well exposed.

It was only natural to ask Skanderborg Handball to join AVK and the local waterworks in common activities in connection with the UN World Water Day on 22 March where we handed out fresh water tapped from an AVK hydrant connected to the tap. We invited children to play handball with the men's team and next to the waterworks' stand we had a bottle flip challenge game. More than 200 children had a memorable day devoted to water.

AVK also supported a Clean Water Campaign with the purpose to collect money for children in exposed areas of the world to have clean drinking water. During the entire campaign which lasted three months, approx. 30,000 DKK was collected to provide a total of 4 million litres of clean water.

AVK SOUTHERN AFRICA MAKES A STRATEGIC INVESTMENT IN GUNRIC

AVK Southern Africa strengthens local manufacturing by purchasing Gunric's brand, intellectual property and assets.

By Sayuri Papiah,
Marketing Manager,
AVK Southern Africa (Pty) Ltd

The investment in Gunric Valves has increased the local manufacturing footprint in South Africa and expanded the AVK product programme offering to customers across the continent. Gunric Valves has always specialised in manufacturing and exporting of large diameter and made-to-order butterfly valves and tilting disc check valves.

Patrick Jantjies, Marketing Director of AVK Southern Africa says: "The addition of the triple offset metal seated butterfly valves product programme strengthens our offering to our core water business, as well as enables us to extend our industrial valves offering to customers. This is an exciting addition to our ever-growing product programme – one that will also fortify our offering for both South African and international project business."

Over the decades, Gunric Valves has supplied many of the valves in South Africa's still operational major power stations, petrochemical and water infrastructure projects.

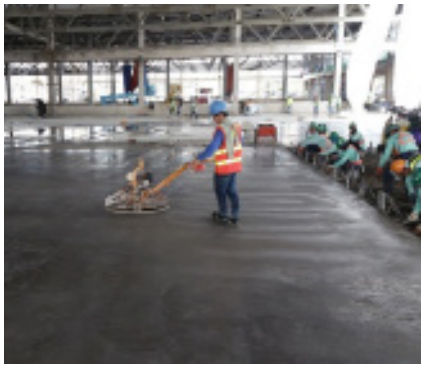
"Our dedication to strengthening our local manufacturing and delivering solutions that are made in Africa is our proudest attribute. Not only does this investment reinforce our commitment to creating world class manufacturing and technical support in Southern Africa, it also strengthens our local footprint which is why we will continue to operate at the existing facility at Robertville, Florida, Johannesburg," adds Patrick Jantjies.

AVK's continuous investment into the local market funds the creation of new standards for local production capacity that are also based on the latest international production technology and green processes. The knock-on benefits of this acceleration is the adoption of green technology, growing local skills-bases and increased high-tech production and foundry capacity.

AVK is a strong advocate of the DTI's designation policy aimed at re-industrialising South Africa to meet the requirements of its state-owned enterprises and infrastructure spending, thereby sustaining employment opportunities through the value chain.

"This investment presents us with a massive opportunity and given that we are able to offer customers a single point of contact to gain access to 'one world' of a full-line of products, we will be working closely with the team at the Robertville facility to expand and strengthen the overall position of the group in the Southern African and global markets," concludes Patrick Jantjies.

AIR CONDITIONING AND PNEUMATIC SYSTEM SOLUTIONS FOR AN INTERNATIONAL MANUFACTURING FACILITY



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

AVK Philippines recently partnered with the Japanese mechanical contractor, Shinriyo Philippines Inc. for the supply of HVAC valves and pneumatic system valves at an international manufacturing plant in Lima Technology Center, Batangas, located in the south of Manila.

The new plant is targeted for complete start-up by June 2017, and the production will supply both local and international markets.

The plant has 48,000 square metres of office space and production facility for comfort and process cooling for a total of 2880 TR chiller capacity. The chilled water system is installed with IC valves (ICV) and accessories such as 3-in-1 control valves, motorised valves, balancing valves, butterfly valves, ball valves, gate valves, y-strainers, and flexible connectors from sizes 15mm to 600mm. The pneumatic system of the facility is also fitted with InterApp stainless steel gate- and ball valves.

AVK Philippines was very focused in coordinating with owner, contractor, and consultant during the project inception, design, tendering, negotiations, ordering and delivery stages which are all essential in meeting the client´s expectations.

We can say that AVK Philippines strived to deliver quality, innovation, reliability, sustainability and customer service in capturing and delivering the order.

THE SMALL GIANT FROM DENMARK

By Lis Muusmann,
Marketing Manager,
Flonidan A/S

These years, even more countries introduce a nationwide exchange of the energy and water meters placed in households. The meters are replaced by so-called “smart meters”. Smart meter is a term covering a new generation of consumption meters, which can be read remotely.

Smart meters collect and process information from the supply net. The information is stored in the meter, but new technology also allows information to be read remotely.

The focus of smart meters is streamlining energy and water use. It is a more efficient way to help homes and businesses reduce their use, and for utilities to track and charge customers for their real-time use. But there is another vital reason why smart metering is so important. CO_2 emissions could be reduced substantially if the world adopts the technology.

This is also one of the main reasons why the deployment of smart meters was regulated by EU in 2012, setting up a target of 80% exchange within Europe before 2020. Although the target was set for electricity meters only, this directive kick-started a massive roll-out of smart meters, also for other types of consumption meters and even outside Europe.

For Flonidan, a subsidiary of AVK, with several years of experience in gas metering, this political commitment to smart metering has led to a large growth in sales of smart gas meters in the recent years.

In the Netherlands, they decided for a nationwide exchange of all electricity and gas meters and awarded Flonidan

a record order of 1.4 million smart gas meters. Then came the UK, also deciding for a full roll-out of smart meters, including 22.2 million gas meters. So far, this has brought Flonidan several orders for hundred thousand smart gas meters.

The big wins have positioned Flonidan among the leading manufacturers of smart gas meters for the utility sector, - a market traditionally dominated by large cooperations with a long history in meter manufacturing.

The business model, which has brought a smaller cooperation like Flonidan success in this fast-moving market, is a lean and agile business setup with a smooth gearing of the supply chain, outsourcing of the production and focus on development and quality. With only 55 employees, about 40% in R&D, Flonidan has realised annual turnover of 3-digit million DKK with this model.

CEO Sten Dyrmose plans to continue this setup in the coming years.

”This new smart gas meter SciFlo® is more than just an addition to our product line; it´s a new platform. SciFlo® sets new standards both in functionality and sustainability. It is only a 1/3 of the size of a standard gas meter but has a substantially larger dynamic range. It has no mechanical, no moving parts and no noise. And, unlike other common gas meters, we have omitted the normal surface treatment of the metal. This matters to us, our customers and to the environment.”

The demand from the Dutch and English markets will take up the production capacity of Flonidan for quite a while yet, but new markets outside Europe are emerging.

The world market for smart meters is expected to reach 21.4 billion $ in 2020 and although only a part of this is related to smart gas meters, there is without a doubt a big market potential for the small giant from Denmark.

Facts about Flonidan

- Subsidiary of the AVK Group
- Founded 1982
- Manufacturer of smart gas meters
- Located in Horsens, Denmark
- 55 employees
- R&D in Denmark
- Production in Poland & Thailand

BUTTERFLY VALVES FOR REFURBISHMENT ACTIVITIES IN WATER TREATMENT PLANT GERMANY

Valve room before replacement

Valve room after replacement with AVK double eccentric butterfly valves in DN800

In September 2016, AVK Armaturen delivered six double eccentric butterfly valves series 756 in dimensions DN800 and DN1000 for the supply line from the water reservoirs to the clean water pump stations of the Walddörfer Waterworks in Hamburg.

By Ilka Keilen,
Marketing Manager,
AVK Armaturen GmbH

The AVK butterfly valves with stainless steel seat ring replace the originally installed butterfly valves from the 1980s. The replacement was necessary due to leakage of the old valves.
The refurbishment took place during ongoing daily operation of the plant. Next to the butterfly valves, four single-shut-off AVK hydrants series 35/31 were installed for the purpose of air release and intake during filling and drainage of the pipe system. The access to the valves and hydrants is provided by AVK plastic surface boxes series 80/30 and 80/31. Thanks to the mix of materials of the plastic body and cast iron lid, the risk of freezing and therefore blocking the lid is eliminated.

By the end of last year, AVK delivered five more double eccentric butterfly valves in DN800. The new butterfly valves replaced gate valves in short length from 1965 placed in the basement of the valve chamber, located between two reservoirs. The originally installed gate valves needed to be replaced due to wear. Two of the AVK butterfly valves are actuated by an electric actuator and three of them are manually operated.

Summary product features of AVK double eccentric butterfly valves
Double eccentric butterfly valves feature a shaft that is offset the centre lines in two directions; eccentricity relates to the centre of the pipeline and double eccentricity relates to the valve centre. Therefore, the disc swings open/close like a door to ensure a minimum wear of the rubber seal. Furthermore, the special AVK tilted disc

design (see picture below) minimises the compression of the disc sealing, which leads to lower operating torques and also minimises the wear of the sealing.

The shaft is connected to the disc by key and keyway. The keyway is additionally secured by two sets of screws, minimising the wear of the keyway and avoiding the risk of fluttering, that could eventually occur from flow velocity and too much space in the connection as described.

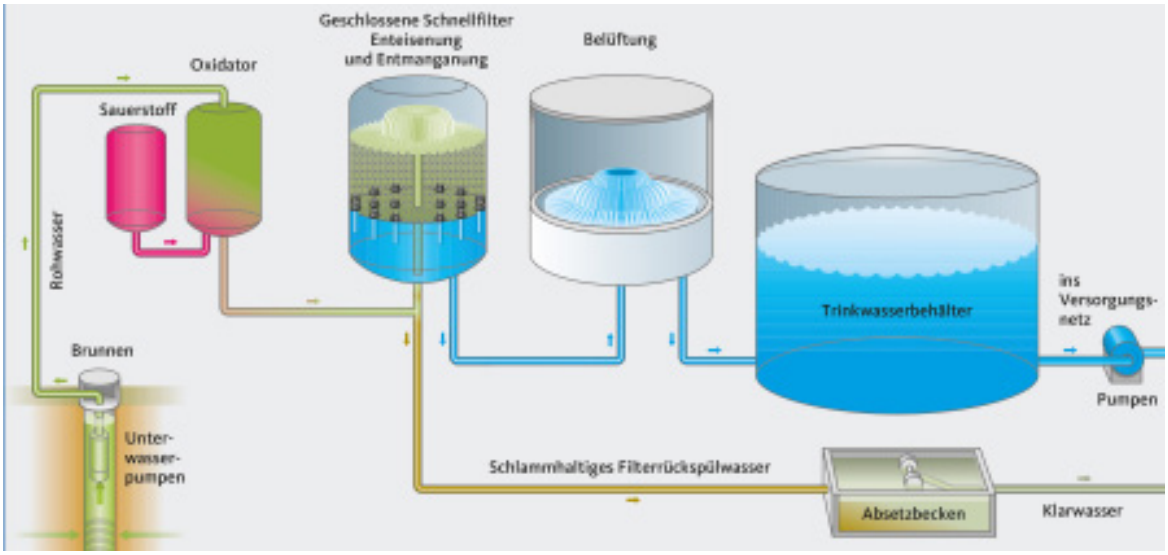
In larger dimensions, the disc is fixed by two stainless steel drive dowels that are additionally secured by key and keyway. The dowels are moulded in order to avoid any space occurring between disc and shaft. These features are followed by a perfectly shaped and secured disc sealing, fully encapsulated shaft ends and low friction PTFE shaft bearings, also contributing to low operating torques long life and reliable function of the valve. The AVK series 756 double eccentric butterfly valves are available with integral ductile iron seat or with a replaceable seat ring of stainless steel sealed with an O-ring.

Compared to gate valves, double eccentric butterfly valves have a lower weight, need less space in a plant or chambered installation and less trench depth for buried service. Furthermore, they offer a lower closing torque due to the gearbox.

About the waterworks

Hamburg, situated in the north of Germany with its 1.734 million inhabitants, has a total of 16 waterworks. Already in the year 1848, a modern water supply system went online in Hamburg. In these times, the main water source used to be the rivers Elbe and Alster. From the beginning of the 20th century, more and more groundwater was sourced from deep rock layers with the help of well systems, as the raw water was of a very high quality. Drinking water was for the last time ever sourced from the river Elbe in 1964.

Due to an increasing urbanization in the north of Hamburg and an even faster increasing demand for drinking water supply after World War II, two more waterworks were founded next to the existing one from 1892. One of them was the waterworks Walddörfer that went online in 1965. The waterworks consists today of 21 wells in an underground depth of 200-380 metres and 11,500 metres of raw water pipelines. The raw water which is already free of pollution, is treated step-by-step, first by aeration, followed by filtration in 12 closed rapid gravity filters, and is finally led via cascades where excess carbon dioxide is discharged and another aeration takes place. Finally, the drinking water is stored in one of three reservoirs with a total volume of 30,000 m³ storage space. Depending on the individual demand, the water is distributed into the supply pipe system via four pump stations. The waterworks has a daily performance of 38,000 m³ constant load and a peak load of 60,000 m³ drinking water.



Flow chart of water treatment process at Hamburg Walddörfer Waterworks

Source text and picture: Hamburg Wasser

MAREEBA WASTEWATER TREATMENT PLANT UPGRADE

AUSTRALIA

AVK Flow Control is proud to supply CYL knife gate valves to Downer Utilities for the Mareeba Waste Water Treatment Plant Upgrade. CYL manufactures and sells a wide range of knife gate valves for water and wastewater treatment plants as well as for various industrial applications and is respected globally as a leading manufacturer.

By Alan Dunbar,
State Sales Manager QLD,
AVK Flow Control Pty Ltd

It is one of our greatest challenges to meet our customers' most individual technical requirements and demands for valve applications. Driven by our passion to fulfil our customers' expectations, our technical/sales department works and cooperates closely with our customers to provide a complete package that covers project management, engineering, service and logistics. In that way, we can always assure the highest quality, short lead time and a reliable service.

In addition to the knife gate valves, AVK also supplied actuated ball valves, manual thermoplastic ball valves and flanged pressure reducing valves for the Mareeba Waste Water Treatment Plant Upgrade.

Testing and commissioning is due to commence in April 2017 with the plant scheduled for hand over to the Council´s operators by the end of June 2017.

AVK TAKES OVER ENAMEL DIVISION OF EMK

INTERNATIONAL

By Morten Sæderup Nielsen,
AVK Group Director Continental Europe

The AVK Group has further expanded its coating capacities by taking over the enamel division of EMK GmbH in Allstedt, Germany.

With this investment, AVK ensures a continued availability of high quality enamelled valves and hydrants from AVK with the commonly high level of service and innovation.

EMK has been a leading supplier for surface treatment for many years and with the sale of its enamel division, the company will now focus on other core business segments.

AVK BALL CHECK VALVES AND GATE VALVES ARE BEING USED IN EDIRNE

TURKEY

Edirne city, located at the Greek border of Turkey, is an old Ottoman capital. The city is known for its traditional liver dish, early Ottoman architecture and, unfortunately, also for flooding from the river Maritsa (Meriç).

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

The TM3 wastewater pumping station was constructed eight years ago and designed to pump excess storm water to alternative outlets, if needed. Unfortunately, incorrect functioning of the return water mechanism caused additional problems on top of excess storm water last spring, and the municipality therefore decided to renew the valve mechanism in the return line. AVK won the contract to replace five sets of DN400 ball check valves and gate valves for wastewater.

As noted by a local newspaper, Edirne Water and Wastewater Authority, representatives mentioned the reason for the choice to be that “New check valves and gate valves allow full bore area to reduce electricity consumption and ease the motor load. The new ball check valves will provide better closing against back flows and the station will perform fully”.

News Source: Milliyet Newspaper

AVK CHAMBERED WASTEWATER AIR VALVES

Over the past two years, since AVK UK launched the concept of a wastewater air valve supplied complete with chamber and integral isolator to the UK market, it has been successfully adopted and the number of projects using this product continue to grow.

By Graham Charnley,
Market Sector Manager – Clean Water,
AVK UK

The underground air valve system is a competitive solution compared to a typical chamber construction and offers convenient and fast access to maintenance from ground level, even when the system is under pressure.

Currently the chambered air valve system is being used or trialled in Anglian Water, Severn Trent Water, Yorkshire Water and Scottish Water. Most recently, MMB has benefited from the use of these chambered units.

Following discussions with designers, operators and contractors it soon became apparent that cost savings, initially identified as the main drive, are only part of the success story as outlined below:

- reduced design requirements as the chamber only requires one top ring at installation
- improved health and safety because the valve can be removed from ground level eliminating confined space entry
- reduced installation time and exposed excavations on site as the unit comes with a standard PN16 flange connection which can be bolted on the excavation backfilled in one day
- the simplicity increases installation speed benefiting the overall site program
- the ease of removal simplifies further maintenance and reduces costs. With the simple quarter turn release of the air valve and easy access to the internal, maintenance is completed efficiently and cost effectively
- savings have been identified anywhere from £400 to £900+ depending on the site and traditional chamber design
- with a solution such as this, the series 701/79 package comes with established performance and quality and delivers options suitable for the hydraulic conditions of individual mains with air valves performance varying from minimum sealing pressures of 0.05 bar up to discharge of over 2,300 cubic meters per hour at 16 bar.

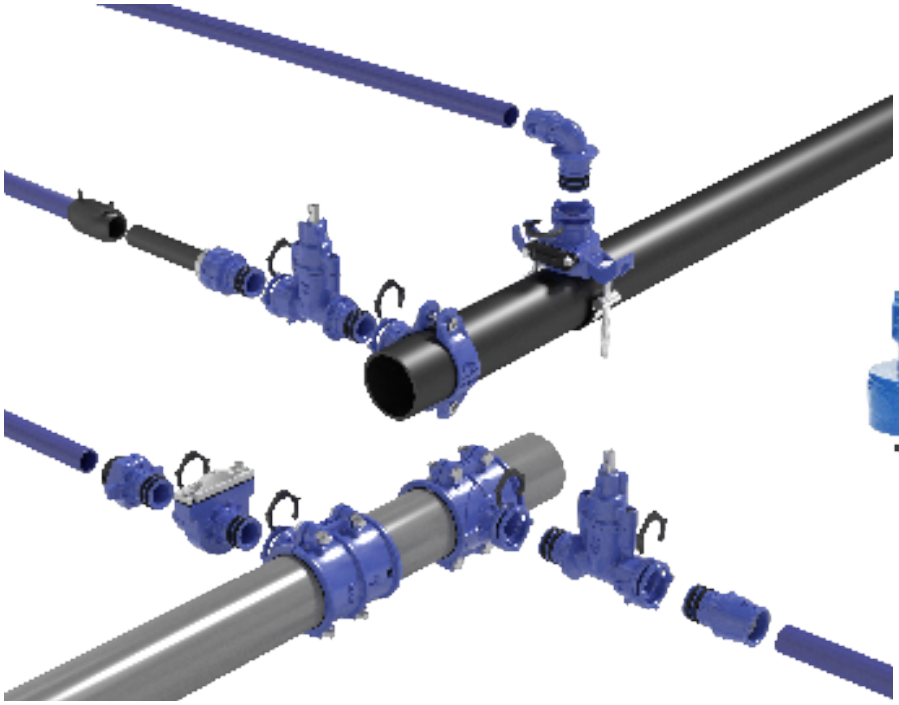
In 2015, AVK UK's series 701/79 chambered system was the only "product" to make the national finals of UK Water Dragons.

The series 701/79 chambered wastewater system forms part of our core products and stock is held at our national distribution centre in Corby. Working with our partners ARI Valves, innovation and value engineering solutions are at the core of our philosophy. In 2016, AVK introduced seven new air valve products to the UK market, including a complete range of reinforced nylon (RN) wastewater air valves.

2016 saw an increase in the use of the ARICAD solution that creates reports to identify the type, size, performance and location of the air valves providing additional support and value engineering to projects. These reports have proved beneficial to a number of designers and projects across the country.

Autumn 2016 saw another new RN wastewater air valve launch, offering a 2" nominal bore with discharge rates of over 1,000 cubic meters per hour, completing the AVK UK range. Now that this new valve has been added to the chambered range, AVK has a complete added value product offer.

NEW PRODUCTS IN THE SUPA LOCK™ RANGE



In June 2017 we are launching two new products for our threadless connection system.

By Lene Mark,
Marketing Manager,
AVK International A/S

A new tapping saddle for metal pipes and a new tapping head, both with blade shut-off for under pressure drilling, are now part of the Supa Lock™ range. They both act as a temporary valve during the tapping into a mainline under pressure.

The tapping saddle consists of a saddle head of ductile iron covering DN 50-300 designed with a Supa Lock™ socket outlet, and a lower part (the stirrup) of stainless steel with EPDM liner. The stirrup is available in 12 sizes, the smallest with a pipe tolerance span of 50-88 mm and the largest with a span of 325-360 mm.

The saddle head has a closed slot on one side and an open slot on the other for easy mounting of the stirrup. The stirrup plate is rolled around the bush cylinders to ensure durability and high strength, and the M16 bolts are anti-friction coated and supported by a POM washer providing optimum flexibility and minimum friction during installation.

The tapping head is designed with a Supa Lock™ spigot end for mounting into our standard Supa Lock™ tapping saddles, and a Supa Lock™ socket outlet for connection of Supa Lock™ fittings. It is a cheaper alternative to a valve, but it does not offer the possibility of operation from ground level.

The Supa Lock™ system has been well received in our markets thanks to its corrosion-free joint, easy two-step assembly with maximum flexibility and the self-locking design. We are convinced that these two new products will make Supa Lock™ an even more attractive solution as an alternative to threaded connections.

Check out the animation, videos and documentation at www.avkvalves.eu, in the Supa Lock™ section under “Insights”.

AVK AROUND THE WORLD

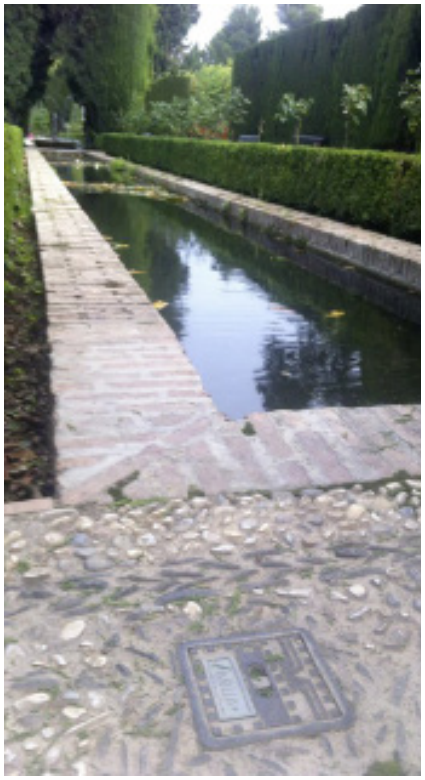
PURDIE IN THE ENTRANCE OF THE ALCAZABA IN THE ALHAMBRA, SPAIN

By Manuel Martín Jefe Area Sur Ingeniero Industrial, AVK Válvulas S.A.

The Alcazaba was the main military residential area where the soldiers responsible for defending the Sultan and the Alhambra lived. A walkway runs through the middle of the Alcazaba, and the smaller houses were probably for single soldiers without families while the larger ones were for soldiers and their families.

AVK VALVE NEXT TO HOTEL IN BANDAR SERI BEGAWAN, BRUNEI

By Rebecca Glier, Business Specialist, AVK Valves (Anhui) Co., Ltd.



PURDIE COVERS INSTALLED IN THE ALHAMBRA IN GRANADA, ANDALUSIA, SOUTH OF SPAIN.

By Javier Medina Jiménez, Central Warehouse Manager, AVK Válvulas S.A.

AVK AROUND THE WORLD

AT THE HARBOUR IN PHILLIPSBURG IN ST. MAARTEN

By Brian Leth, MAFA, AVK International A/S

AVK HYDRANT IN FRONT OF THE NEW AIRPORT IN MADINAH, SAUDI ARABIA

By Mohammed Hamad, Product Manager, AVK SVMC

IRRIGATION HYDRANT AND SURFACE BOX, TARRAGONA, SPAIN

By Vanessa Martínez, Technical & Quality Office Manager, AVK Válvulas S.A.

Tarragona beach: Arrabassada
Walking on the sea side you can see these two AVK products, irrigation hydrant and surface box.

GAS SEMINAR IN UKRAINE

By Kirill Korobitsyn, Area Sales Manager, AVK International A/S

The first AVK gas seminar held in Ukraine. Maxim Volyntcev, Product and Promotions Manager, Russia, with Olga Fedorenko deputy director from SU GROUP. Among the participants are CEO's, chief engineers and project designers for: DST GROUP, KIEVOBLGAZ, KIEVGAZ, UKRSNAB and URKNDNZPROEKT.

COMPETITION

We are happy to announce that the winners of the competition in AVK InterLink no. 48 are:

- Thea Hennekes, AVK Nederland B.V., the Netherlands
- E. M. Thiruvarasan, AVK Valves Manufacturing (M) Sdn. Bhd., Malaysia
- Anna May Corey, American AVK, USA

Gifts are on their way.

The correct answer is: AVK Pentoflow

New competition:

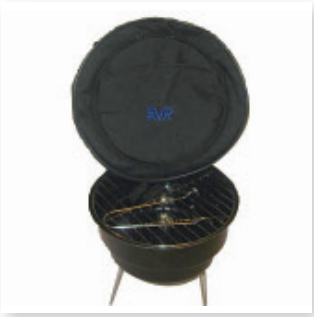
Which product does this enlargement show?

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 inside Ø12.5 cm



Picnic grill in a cooler bag

Glass decanter

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Expect... AVK