



EFFICIENT VALVE SOLUTIONS
FOR INDUSTRIAL PLANTS





AVK GROUP GLOBAL EXPERTISE WITH LOCAL COMMITMENT

The AVK Group is a global leader in valve solutions, supporting a wide range of industrial applications. With decades of experience and a strong commitment to quality and reliability, we deliver solutions designed to meet today's requirements and support future needs.

Founded in 1941, the AVK Group has grown into a global organisation employing more than 5,300 people across over 100 companies worldwide, generating an annual turnover of EUR 1.212 billion. AVK operates across two core business divisions: AVK Water Solutions and AVK Advanced Manufacturing. These divisions are built on strong product expertise and advanced manufacturing capabilities.

At AVK Water Solutions, our purpose is clear: to develop, manufacture, and market durable and high-quality products that are part of vital infrastructure. Our solutions are tailored to

meet the needs of a wide variety of industries, including energy, oil and gas, life sciences, pulp and paper, chemical processing, HVAC, district cooling & heating, marine, mining, bulk handling, air separation, dams and reservoirs, water treatment plants and the steel industry.

While AVK operates on a global scale, our local teams are always available to support you. We work closely with our customers to deliver products that meet specific operational requirements, comply with local standards and approvals, and perform reliably even under the most demanding conditions.

AVK Industrial Solutions S.r.l. is the Italian subsidiary of AVK Group, specialising in industrial valves and flow control solutions for process industries. With a dedicated local team, we provide technical expertise, commercial support, and reliable solutions to customers across a wide range of industrial applications.

GLOBAL. LOCAL. TRUSTED.

AVK's local teams provide responsive support and market expertise close to our customers. Backed by a strong global company, we deliver trusted solutions with consistent quality worldwide.

- Sales and production
- Sales
- Representative offices



OUR INDUSTRIAL PRODUCT BRANDS

The AVK group brings together the strengths of well-established industrial brands.



AVK Piacenza, Italy, specialises in the manufacture and distribution of **triple offset metal-seated butterfly valves** for demanding and critical applications, ranging from low-temperature and cryogenic service to high-temperature environments. Leveraging extensive expertise in severe service environments, the company provides standard and highly customised valve solutions, tailored to meet specific customer needs and complex operational conditions.



Belgicast combines decades of experience with a strong track record in delivering **valve solutions for desalination projects** worldwide. Its valves support the full process - from seawater intake to post-treatment - ensuring reliable flow control, pressure management, and system safety. Designed with advanced materials and technology, Belgicast valves deliver durable, efficient performance, with after-sales support ensuring long-term reliability and operation.



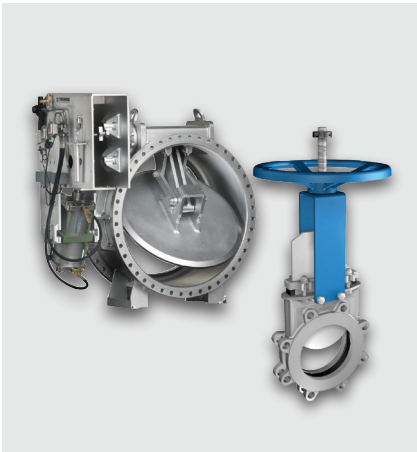
DTL, part of the ORBINOX Group, is located in the UK and specialises in the design and manufacturing of **high-performance damper solutions** for the isolation, control, and diversion of air and flue gases. The product portfolio includes butterfly dampers, louvre dampers, diverters, and guillotines, serving a wide range of industrial applications. In addition to its standard range, DTL offers customised solutions.



With more than 30 years of experience in the industry, the Croatian company Indoil Data Centre specialises in the design and manufacturing of **high-performance ball valves and butterfly valves**, serving a wide range of industries. Additionally, the company offers customised solutions tailored to meet specific customer requirements.



InterApp Valcom, located in Spain, has over 40 years of experience in designing and manufacturing standard and highly customised butterfly valves for the most demanding processes and industries. The range covers **PTFE-lined butterfly valves** as well as **elastomer-lined butterfly valves** in various material combinations and executions.



ORBINOX, headquartered in San Sebastián, Spain, has more than 60 years of experience designing, manufacturing, and marketing **knife gate valves, penstocks, dampers, and valves** for hydraulic work, which cover a variety of applications. Being present in over 70 countries across five continents enables the company to be close to its customers, offering technical advice and responding to their requirements.



tec artec
High Performance Valves



TEC artec is specialised in the design and manufacturing of **high-performance desuperheater valves**, complete desuperheating systems, special shut-off and control valves for critical industrial applications and services. Besides standard versions, tailor-made solutions are available. The company is located in Oranienburg, Germany.



WOUTER WITZEL
VALVE TECHNOLOGY



Based in the Netherlands, Wouter Witzel designs and produces **centric and double eccentric butterfly valves** for industrial processes. With the vulcanised rubber-lined butterfly valve as the base model, a wide variety of butterfly valves can be offered in different materials. International recognition has been gained through fifty years of production and product developments.



AVK



AVK Netherlands specialises in the manufacture and distribution of stainless-steel products such as **repair clamps** as well as Repico® **couplings & repair couplings**. With over 40 years of experience, AVK Netherlands supplies products to more than 40 countries worldwide. Manufactured in its own state-of-the-art facility, all solutions are designed for high performance and reliability. The company offers both standard and customised solutions that meet the highest safety and durability standards across industries.



INDUSTRIAL PORTFOLIO AT A GLANCE

Products	AVK	Belgicast	DTL	Indoil	InterApp	ORBINOX	TEC artec	Wouter Witzel
Butterfly valves								
Centric - Elastomer-lined		•			•			•
Centric - Bonded-lined					•			
Centric - PTFE-lined								
Double Eccentric				•				
Triple Eccentric	•		•					
Damper								
Ball valves				•			•	
Knife gate valves						•		
Penstocks						•		
Gate valves		•		•				
Globe valves				•			•	
Check valves		•						•
Desuperheaters							•	
Couplings	•							

Segment	AVK	Belgicast	DTL	Indoil	InterApp	ORBINOX	TEC artec	Wouter Witzel
Industrial Water Treatment	•	•		•	•	•		•
Energy	•		•	•	•	•	•	•
Pulp & Paper	•				•	•	•	•
Chemical Processing	•		•	•	•	•	•	•
Oil & Gas	•		•	•	•	•	•	•
Marine	•		•	•	•	•		•
Life Science	•				•	•		•
Dams, Reservoirs & Hydropower	•	•				•		
Building Services (HVAC)	•				•			•
District Cooling & Heating	•				•	•		•
Mining	•		•		•	•		•
Irrigation	•	•			•	•		
Bulk Handling	•				•	•		
Air Separation	•		•		•	•		
Steel Industry	•		•	•	•	•		•
Desalination	•	•		•	•	•		•

RELIABLE PERFORMANCE ACROSS INDUSTRIES

Our industrial solutions are engineered to perform in the most demanding environments, supporting critical processes where reliability, safety, and efficiency are paramount. From standard applications to the most complex operating conditions, we combine a strong portfolio of proven standard products with the flexibility to deliver fully customised solutions—carefully tailored to meet each customer’s specific requirements.

Supporting industries worldwide

As experts in industrial valve solutions, we understand the challenges of even the most demanding industries, applications, and processes. With a comprehensive portfolio, we provide reliable solutions across a wide range of sectors, including:

- Industrial Water Treatment
- Energy
- Pulp & Paper
- Chemical Processing
- Oil & Gas
- Marine
- Life Science
- Dams, Reservoirs & Hydropower
- Building Services (HVAC)
- District Cooling & Heating
- Mining
- Irrigation
- Bulk Handling
- Air Separation
- Steel Industry
- Desalination

Standard and customised solutions

In addition to our comprehensive standard product range, we offer fully customised solutions tailored to specific application needs. Our engineering teams work closely with customers to develop products that meet precise technical requirements, including:

- Extreme temperatures and pressures
- Corrosive or abrasive media
- Space constraints and installation conditions
- Industry-specific standards and certifications

Thanks to the flexibility of our production sites combined with our extensive application expertise, our R&D teams and technical experts develop solutions that are precisely tailored to customer needs and designed to deliver long-term performance and reliability.

Certifications and approvals

To meet industry and regulatory requirements and depending on the product and application, different certifications and approvals are available.

- PED 2014/68/EU
- SAFETY INTEGRITY LEVEL SIL
- ATEX DIRECTIVE 2014/34/EU
- FDA
- EC 1935/2004
- Fugitive Emission
- EN ISO 15848-1
- FIRE SAFE CERTIFICATE API 607 / ISO 10497
- API 6D - 1745
- RINA
- ACS
- EAC
- DVGW
- SVGW
- NSF-61
- Det Norske Veritas



InterApp Bianca
Customised execution for marine industry



InterApp Bianca disc
Customised disc for deep frozen products



Belgicast dual plate check valve EMG
Customised rubber-lined for desalination plants



A trusted partner

By combining strong brands, technical expertise, and a customer-focused approach, we are a trusted partner in the industry. We are committed to supporting our customers with reliable products, innovative solutions, and long-term value.

SAFE OXYGEN HANDLING AND METAL ION-FREE WATER

To ensure a failure-free operation and the manufacture of contamination-free products, none of the media used in hydrogen production should contain metal ions, which make them electrically conductive and the electrolysis process less effective.

Leuna Green Hydrogen facility is a 24 MW green hydrogen factory and so far the biggest water electrolysis site worldwide (2022). It is part of Chemiepark Leuna, close to Leipzig, Germany.

InterApp valves are used in the water purification, electrolysis, hydrogen and oxygen treatment systems.

The entire PEM (polymer electrolyte membrane) electrolyser process is equipped with Bianca butterfly valves with PFA-overmoulded disc, Desponia® butterfly valves with Halar coated disc, PFA-lined ball valves TLBVH and PFA-lined check valves STCV from DN 25 up to DN 500.

By providing electrical isolation and avoiding metal ions penetration into the media, InterApp valves contribute to a reliable plant operation and ensure maximum safety.

Application
Green Hydrogen Production

Challenge
Electrical isolation, Oxygen certified

Solution

- PTFE-lined butterfly valves Bianca
- Elastomer-lined butterfly valves Desponia
- PFA-lined ball valves TLBVH
- PFA-lined check valves STCV



Courtesy by Linde GmbH, Munich

TAILING FILTER PRESS VALVE SOLUTIONS

One of the largest iron ore beneficiation plants in Brazil improved the reliability of its filter press operations with ORBINOX HG slurry high-pressure knife gate valves.

A major iron ore mining company in Brazil was facing frequent valve failures in its filter press process. The existing valves lasted less than six months under demanding slurry conditions, while the customer required a solution capable of exceeding 12,000 cycles and at least eight months of operation.

The application involved iron ore tailings with solid concentrations of 52–57%, operating at pressures up to 21 barg and around 50 cycles per day. To meet these requirements, ORBINOX

supplied HG Slurry High Pressure Knife Gate Valves in DN 200 / 8" size with pneumatic actuators.

The first installation included 15 valves. After more than 10 months of operation and over 15,000 cycles, the valves continued to perform reliably and exceeded customer expectations. Based on these results, the mining company decided to replace all existing valves from previous suppliers with ORBINOX HG slurry knife gate valves throughout the plant.



JUBAIL 3A DESALINATION PLANT

The Jubail 3A Desalination Plant on Saudi Arabia's Arabian Gulf coast is one of the region's largest and most advanced seawater reverse osmosis (SWRO) facilities, operating under demanding conditions of high salinity and continuous large-scale production.

Belgicast supplied a comprehensive range of butterfly valves for reliable flow control and system isolation across critical stages of the process, engineered with materials and coatings suited to aggressive marine environments for long-term performance and reduced maintenance.

A key differentiator was Belgicast's Technical Assistance Service (SAT), a team specialised in desalination plants that supports customers through installation and the critical start-up phases:

Pre-commissioning supervision: correct installation, alignment, and functional verification before start-up.
Post-commissioning inspection: validating performance under real operating conditions.

This proactive approach optimises valve performance, extends service life, and reduces operational risks from day one – demonstrating how high-quality valves combined with specialised technical support ensure reliability in large-scale desalination plants.



AI DATA CENTRE LIQUID COOLING SYSTEM

With high-performance valve solutions for advanced liquid cooling systems, AVK supports modern AI data centres through reliability, efficiency and scalable supply capability. Designed for demanding cooling environments, AVK solutions help operators achieve sustainable, energy efficient and high-performance infrastructure for the AI era.

Driven by high-density AI computing power and national green low-carbon policies, new large and mega data centres are required to strictly control $PUE \leq 1.25$, while national hub node data centres must meet $PUE \leq 1.2$. Traditional air cooling can no longer satisfy the heat dissipation demand of high-density AI computing power nor meet low PUE targets, making liquid cooling the mainstream technical solution for efficient heat dissipation and energy consumption reduction.

As a critical part of heat dissipation and transfer, secondary liquid cooling systems impose stringent requirements on valves in terms of long-term reliability, zero-leakage sealing, fat free high cleanliness and coolant compatibility.

To meet these demands, AVK assembles the valves in an in-house clean room to ensure full-process grease-free control with 100% factory inspection. In addition, projects are generally faced with the dual pressures of extremely short delivery schedules and large-volume stable supply.

With proven liquid cooling valve solutions, professional material adaptation capability, comprehensive supply chain management, high production efficiency and a fast delivery system, AVK has become the preferred valve supplier for secondary liquid cooling loops in large-scale AI data centres. Having successfully delivered more than 10,000 butterfly valves and 5,000 customised ball valves, AVK Shanghai continues to support the dual demands of high-density computing heat dissipation and green low-carbon construction.

Application

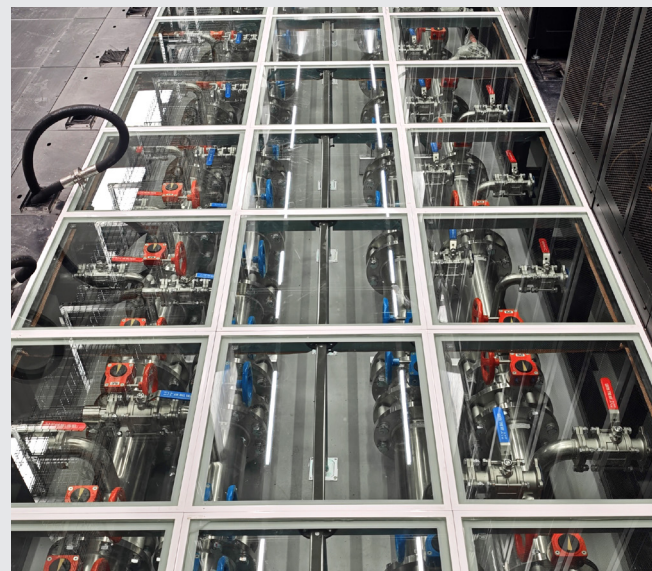
Secondary Side Liquid Cooling Loop

Challenge

- Ultra-high heat density heat dissipation demand of AI server cabinets
- Zero leakage and grease-free requirements for liquid loops
- Long-term compatibility with 25% glycol coolant and excellent corrosion resistance
- Heavy pressure for large-quantity, high-quality and consistent product supply

Solution

- S76 stainless steel centric butterfly valves with FKM liner
- S3150 customised flanged stainless steel ball valves



INTERMEDIATE SPILLWAY CONTROL SYSTEM

One of the largest concrete dams in Spain relies on ORBINOX for a challenging flood control solution.

Located in Burgos, the Castrovido reservoir was designed to manage periodic flooding of the Arlanza River while ensuring safe and reliable operation under extreme conditions. The project required a system capable of handling a 10-metre variation in reservoir level and controlling flow from 450 m³/s down to a constant 30 m³/s.

To meet these challenges, ORBINOX supplied a bonneted sliding gate as a guard valve and a four-side sealing radial gate as the service throttling valve. Both gates are hydraulically actuated and engineered to withstand

demanding operating conditions with a design pressure of 25 m.w.c. The bottom spillway system enables controlled flood management while significantly increasing the reservoir's flood lamination capacity.

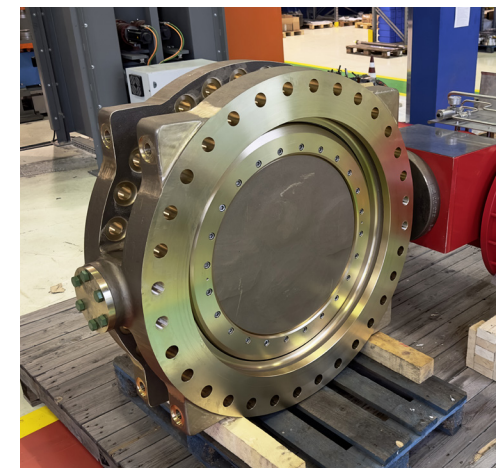
With this innovative solution, the dam can safely manage flood events designed for a 5,000-year statistical occurrence. The project demonstrates ORBINOX'S expertise in delivering reliable and high-performance flow control solutions for critical water infrastructure applications.

OFFSHORE GAS FIELD FPSO

Floating Production, Storage and Offloading units (FPSOs) require reliable and high-performance solutions for demanding offshore oil and gas operations.

Offshore oil and gas fields require reliable equipment capable of withstanding high pressure, corrosive marine environments, and continuous operation. For these demanding conditions, the AJ Series 985 Triple Eccentric Butterfly Valves from AVK Piacenza were selected by an Australian offshore operator for their proven reliability, tight shut-off performance, long service life, and compliance with stringent safety standards.

The valves feature special configurations in nickel aluminium bronze and carbon steel with Inconel 625 cladding, making them fully suitable for seawater and offshore applications. Sizes range from DN 750 to DN 900 and are equipped with pneumatic actuators.



RELIABLE SOLUTIONS FOR THE LONG RUN

When working with AVK, you can expect consistent quality, reliable performance, and long-lasting solutions. Our global capabilities and strong local presence ensure value at every step.

Our values

At AVK, quality, reliability, functionality, and long service life are the foundation of everything we do. Our way of working is guided by five core values:

- Quality
- Innovation
- Reliability
- Sustainability
- Customer Service

These principles shape our decisions, our processes, and our commitment to continuously improving the value we deliver.

Our promises

To continuously improve and meet evolving market expectations, we are committed to delivering clear and tangible benefits. This commitment is reflected in our customer promises:

- Expect solutions, not just products
- Expect global leadership and local commitment
- Expect quality in every step
- Expect prompt response
- Expect lasting innovations
- Expect total savings
- Expect a long-term partnership
- Expect it to be effective and easy

Our sustainable approach

At AVK, we recognise that our global presence requires high ethical standards throughout our organisation and in all our actions. We are committed to responsible production, environmental protection, and ensuring a safe and healthy working environment.

Our efforts are supported by internationally recognised certifications, including ISO 9001, ISO 29001, ISO 14001, ISO 45001, and ISO 50001, reflecting our dedication to quality, environmental responsibility, and continuous improvement.



AVK Industrial Solutions S.r.l.

Via Italo Calvino, 7
20017 Rho (MI)
Italy

info@it.avkindustrial.com
www.avkindustrial.com/en-it/
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