


		<h1>ENGINEERING SITE SOLUTIONS</h1>	 <b>Glenfield Invicta</b> <i>Delivering Project Solutions</i>
				





As a leader in our industry, we are committed to bringing professional site solutions of the highest quality and safest product on time to our customers, using the latest technology while acting responsibly, respecting the environment, as well as providing meaningful jobs for our employees.



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# Who We Are

## EXPECT... Solutions, Not Just Products



From cradle to grave, Glenfield Invicta's end-to-end project and site solutions provide market leading valve and penstock engineering excellence, across a multitude of water and non-water infrastructure applications.

Supported by the vast product portfolio from AVK UK and its sister businesses, Glenfield Invicta combines the strength and unique proposition of Invicta's site solutions, penstocks and environmental expertise, and Glenfield's experience and expertise in specifying and managing large projects.

As market leaders and industry experts, we have been designing, manufacturing

and maintaining specialist engineered valves, penstocks and actuators for more than 170 years and stand behind every product we install, offering some of the best extended warranties in the industry.

Our record for the design, supply and installation of engineered valve solutions and pipeline equipment projects delivered safely, on time, and to the highest standards in arduous conditions is what sets us apart. This specialist capability has made the Glenfield Invicta and AVK brands synonymous with engineering excellence worldwide.

In addition, we continually invest in our service offerings. Glenfield Invicta Engineering Site Solutions has the people, geographical footprint and systems to support optimised operational efficiency when meeting the needs of our customers.

Glenfield Invicta is committed to training the next generation of apprentices and engineers, we have recently invested over £2m in a 20,000 sq. ft. Learning Academy, which includes a purpose built visitor centre as well as an advanced manufacturing and distribution centre.



**Our expertise and knowledge set us apart, together with our track record for delivering projects on time and to the highest standards.**



All products and service solutions are provided in accordance with all the relevant UK, European and International standards.



## Our Site Solutions offering includes:

### Valve, Penstock and Actuator installation and maintenance.

- Extended Warranty for Products We Supply and Install
- Valve Release
- Valve Repacking
- Valve & Penstock Maintenance and Refurbishment (in situ or Workshop Overhaul)
- Actuator Maintenance and Refurbishment (in situ or Workshop Overhaul)
- Equipment Health Check & Monitoring
- Fittings & Ancillary Parts
- Training & Technical Support

### Our service teams are qualified for the following operations:

- Confined Space Working
- Scottish Water Distribution Operations Maintenance Strategy (DOMS) Scheme
- CSCS
- Water Hygiene – Blue Card
- First Aid
- Safety Harness
- Slinger/Signaller
- Pasma
- All Team Supervisors hold an IOSH in Health and Safety for Middle Management



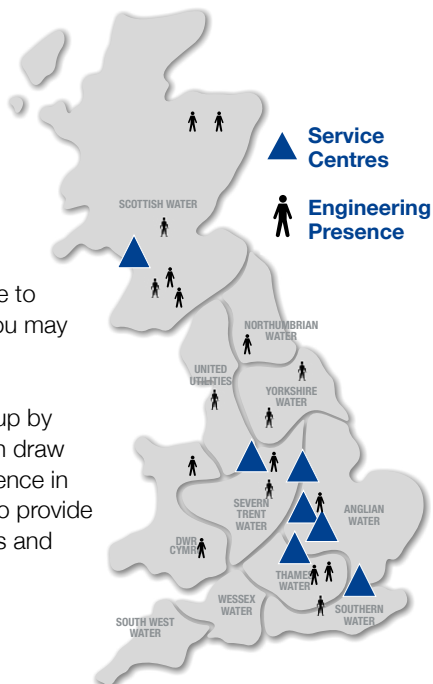
Kilmarlock Service Centre



## Wherever you are, so are we

We understand the value of a prompt, punctual and reliable support, we have strategically located workshops and teams of on-site engineers available to help resolve any issues you may have throughout the UK.

Our services are backed up by technical experts who can draw on decades of our experience in the flow control industry to provide you with the right answers and solutions.



▲ Service Centres

● Engineering Presence

Our focus is developing long-term partnerships allowing us to add greater value.



Kilmarlock Exhibition Area

# Mechanical Installation

At Glenfield Invicta, we specialise in providing a comprehensive supply and installation service for valves. Our commitment to quality ensures that we recommend proven, industry leading valves from the AVK Group & third party manufacturers.

## Why Choose Us?

- **Cost Savings:** By offering a single-source solution, we help our customers achieve considerable cost savings.
- **Minimal Plant Shutdowns:** Our efficient processes minimise disruptions during installation, ensuring smooth operations.
- **Reduced Site Programmes:** We streamline project timelines, allowing you to meet deadlines effectively.
- **Long-Term Solutions:** Our focus extends beyond immediate needs, providing solutions that stand the test of time.
- **Extended Warranties:** We stand behind our products, offering extended warranties for your peace of mind.

## Installation and Commissioning

Our installation teams consist of highly qualified and trained M&E engineers. Their expertise spans various disciplines, including the design and installation of both actuated and non-actuated valves and penstocks - we ensure a seamless project cycle. Our "right first time" approach guarantees a high-quality installation, backed by a company you can trust.

## The valve supply and replacement service offering includes:

- Site Surveys
- Design Input
- Ancillaries
- Supply and Installation
- Commissioning
- In-house Fabrication Service
- Confined Space
- Extended Warranties
- Service and Maintenance Contracts

**Glenfield Invicta: Your trusted partner for Penstocks**



# Mechanical Installation

We have earned a well-deserved reputation as the go-to provider for both actuated and non-actuated penstock supply and installation within the UK water industry.

Our reputation is built on two key principles:

**Choosing the Right Solution:** We meticulously select the most appropriate solution right from the inception stage. This ensures that our clients receive the best fit for their specific needs.

**Correct Installation:** Installing the right product correctly is crucial. Our focus on precision helps avoid costly delays and frustrating callbacks due to leakage or faulty operation.

- Design Input
- Site Audit
- Product Selection
- Commissioning
- Associated Ancillaries
- Installation and Actuation
- Testing
- Maintenance
- Extended Warranties
- Product Selection

**Choose Glenfield Invicta for reliable valve solutions that exceed expectations. Contact us today to discuss your project: [enquiries@glenfieldinvicta.co.uk](mailto:enquiries@glenfieldinvicta.co.uk)**



# Mechanical

## Refurbishment - Valves & Penstock

Our Engineering Site Solutions team are experts in flow control, our experience and understanding ensures we have the capability to resolve any on-site issues, keeping our customers and their assets in full and optimum operation. Our after sales service solutions increase asset efficiency and reduce maintenance costs.

In addition to supplying new products and providing on-site maintenance and repair services for the complete AVK Group product range, we offer comprehensive valve refurbishment and pressure testing, to enhance the effectiveness and extend the operational life of your assets.

We provide FOC on-site survey and diagnostic report of existing valves, actuators and penstocks. Having access to both AVK and other manufacturers products allows us to source spares for many types of valves.

### Gate Valve Refurbishment

Five gate valves with actuators all requiring a complete refurbishment, which had to be carried out while the valves were still 'in-situ' and within a very tight deadline.



Adding to the challenge, the valves had table "D" flanges because of their very tight installation conditions.

#### The work involved:

- Stripping down the valves
- Removal of the actuators
- New bonnet bolts
- New nuts/bolts
- Machined & replaced damaged spindle
- Machined new stem nut
- Installing manual gearboxes
- Shot Blasting
- Repainting
- Pressure Testing

The valves were also converted from electric to manual actuation to improve the ease of operation and increase effectiveness.





# Mechanical

## Refurbishment - Valves Release

We are specialist in water management and leak detection, providing aftersales support to the UK's water companies and industrial customers for many years.

Utilising a state-of-the-art designed technology, Glenfield Invicta has developed solutions for every situation that allows our engineers to release seized valves, operate difficult to open valves and seat passing valves, where other systems fail.

Our valve-friendly solutions apply different levels of controlled torque to suit each situation and is monitored at all times by our engineers to ensure there is no damage to the valve during the freeing process.

Using a portable actuator or compression vibration tooling and bespoke specialised valve adaptations, we are able to apply forces in a way that operates the valve but does not cause lasting damage.

The systems are small, light and easily manoeuvrable into most installation and locations. It also enables for valves to be operated without being isolated, allowing for a fast and effective solution with zero downtime.

### Features & benefits:

- Highly skilled team of OEM trained Engineers
- Process releases valves of any size, age, or level of seizure
- We guarantee to release your valve and restore it to working order

We're so confident in our Valve Release Freeing Service that we operate on a 'No Fix - No Fee' basis and only invoice if the valve is successfully released.



# Mechanical Installation

## Project Focus - Sloy Hydroelectric Power Station

### Project Overview

Glenfield Invicta received a contract to refurbish two Needle Discharge Valves one with a diameter of 48" and the other with a diameter of 12" at the Sloy Hydroelectric Power Station operated by Scottish and Southern Electric (SSE). The valves were originally supplied and fitted by Glenfield Invicta over 80 years' ago.

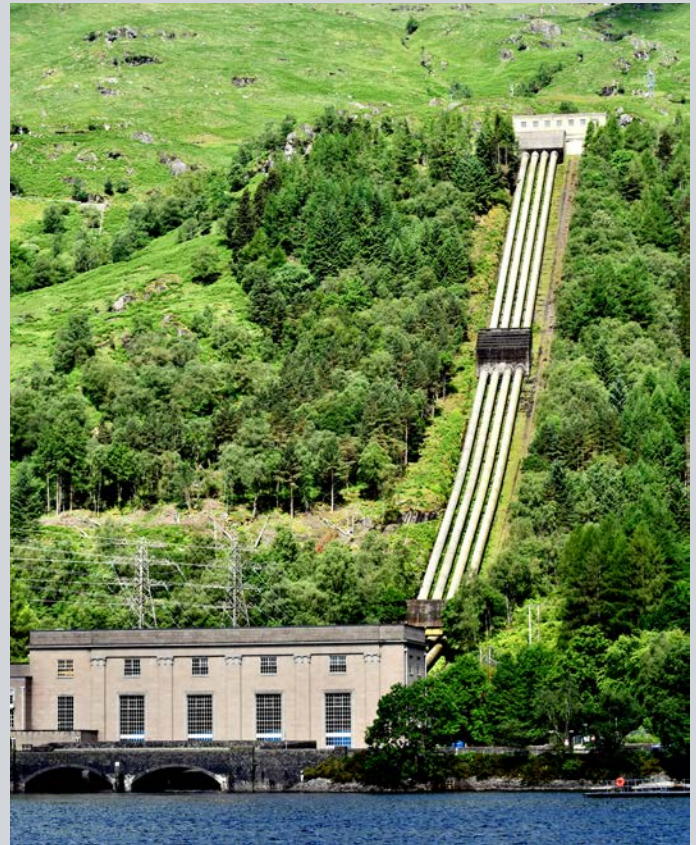
### Specific Requirements

The valves were transported to our workshop at Kilmarnock, where our engineers removed and replaced the bronze seat and face rings on both valves. During the assembly process, our team meticulously rebuilt all the internal gearing within the valve, additionally we replaced the bronze piping for the grease lubricating pipe.

### Challenge

The critical part of this process lies in achieving precise "bedding" or "lapping" between the seat and face rings, which is meticulously done by hand, this skilful procedure is fundamental to ensuring the successful and cost-effective refurbishment of the valves. The key aspects involve applying marking dye to the surfaces, the valve is closed until the two surfaces come into contact and the high points identified and then manually adjusted by our skilled engineers, until they fit perfectly and are 'drop tight'—meaning there is no leakage whatsoever!

The final stages involved the team assembling the valves, painting them and hydrostatic testing, ready for several more decades of service.



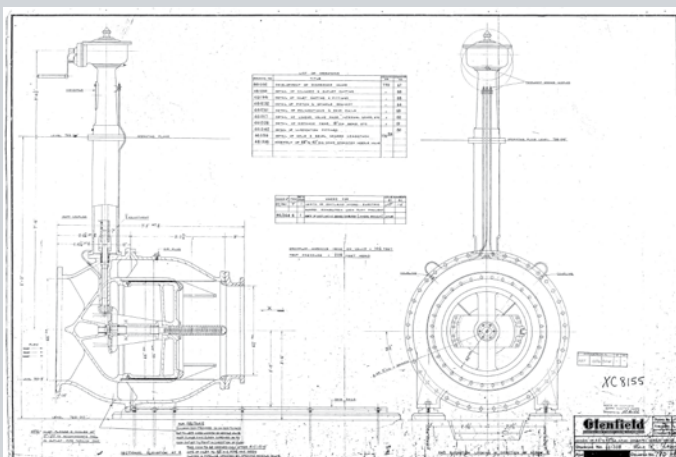
Valve body



Face rings after lapping



Refurbished valves



Original Valve Drawing

# Project Focus - King George VI Reservoir

## Project Overview

Thames Water engineers identified that two of the top draw-off valves had seized in the closed position and the spindles were rotating but there was no linear movement of the valve gates. A camera survey was conducted to determine the root cause of the failure, this survey clearly showed that the threads had been 'stripped' from both the spindles and the pocket nuts.

The valves were originally designed to be manually opened and closed, but later were retrofitted with an actuator and gearbox arrangement, this arrangement, combined with other gearing on the valve appears to have contributed to excessively high operating torques for valves of this design.

## Specific Requirements

Glenfield Invicta were commissioned to design and implement a solution that would restore the valves to full operational capacity, Barhale's civil engineering team was responsible for project managing the valve repair works. The King George VI project exemplifies the scenarios where Glenfield Invicta's expertise and experience are crucial in tackling complex engineering challenges. The success of this project hinged on the strong collaborative relationships fostered between our engineers and the Barhale, and Thames Water teams and demonstrates we can operate independently, or work as part of a multidisciplinary team.

## Challenge

The outlet valve tower, located in the south of the reservoir, houses eight valves at four draw-off levels, these are 48" wedge gate valves which have been in place for over seventy years. The challenge was to refurbish the top draw-off valves and return the reservoir to a fully operational state and allow water to be drawn off from the top level.

The design of the tower meant that removing the spindles for detailed investigation and replacement would be challenging; these were almost 2.5m (96") long and 11.5cm (4.5") in diameter. A detailed programme of works was developed and agreed, with close attention paid, in particular, to the sequencing of the many of the steps required to remove and reinstall the spindles.

These challenges required comprehensive and thorough risk assessments and detailed method statements to ensure safety at every stage.



View of King George VI Tower



The original valve



New Stainless Steel Spindle complete with thrust bearing assembly



Skates used to move valves

# Mechanical Installation

## Project Focus - Keadby Pumping Station

### Project Overview

This was part of a major £35m investment by the Environment Agency to upgrade Keadby Pumping Station, the pumping station drains excess water from three sources, collectively known as the “Three Rivers” into the River Trent, which in turn maintains sufficient water for irrigation of the fertile farmland upstream of the Three Rivers, and prevents excess water flowing into the Three Rivers during high tides and flood events.



### Specific Requirements

The Scope of works was to design, supply, install and commission eighteen penstocks and twelve flap valves and associated control mechanisms as well as rebuilding the outfall headwall.

### Flap valves

The flap valves were constructed from HDPE (High-density polyethylene) and feature neoprene seals. The valve aperture itself measures 1980mm x 1580mm and incorporated an innovative ‘fish-friendly’ spring damper system, comprising of eight individual stainless-steel springs that regulate valve closure. This system ensures that the flap valves remain open for a brief period as the tide rises, allowing fish and eels to migrate without obstruction. Our engineers developed recommended the use of spring dampers due to their consistent long-term performance as well as ease of adjustment on-site.

### Penstocks

We designed the penstocks which featured EPDM resilient elastomer seals and manufactured from stainless steel grade 316Ti—a titanium-stabilised austenitic stainless steel is highly resistant to corrosion. This makes it ideally suited for the brackish water environment in which the penstocks operate, with apertures measuring 1600mm x 2000mm and 1700mm x 1900mm. The twelve outfall penstocks required vertical 8m-long extension spindles to connect them to Auma electric actuators, including built-in uninterruptible power supplies (UPS), positioned over a mesh floor for convenient access, 2m above the top of the chamber. These actuators fitted directly to the extended frames and incorporate safety guards to protect the operators.



Penstock undergoing Factory Acceptance Testing

### Challenge

The flap valves and the pumps were meticulously engineered to be ‘fish-friendly’, facilitating safe passage for fish and eels during their natural migration. The Environment Agency collaborated with a specialist to verify that the design of these components adhered to the requisite specifications. Additionally, they underwent thorough Factory Acceptance Testing (FAT) to ensure their reliability and performance met the exacting standards.



Installation of Wall Mounted penstocks



Penstocks with operating gears

# Project Focus - Dry Docks

## Project Overview

The work was focused on refurbishing the Dry Dock, to increase the operational capacity and allow the shipyard to compete for global refurbishment contracts. The main contractor contacted us as Glenfield Invicta installed the existing valves many years ago our engineering team conducted an in-depth survey to find a solution to their problem.

## Specific Requirements

Our Engineering & Design Team conducted a comprehensive survey of the site and established that the valves and cast-iron pipework, which had been in service for almost a century, were beyond economical repair and we were commissioned to refurbish the pump discharge. The project required the removal of the existing steelwork access platform, valves and pipework and the supply and installation of a modern equivalent replacement.

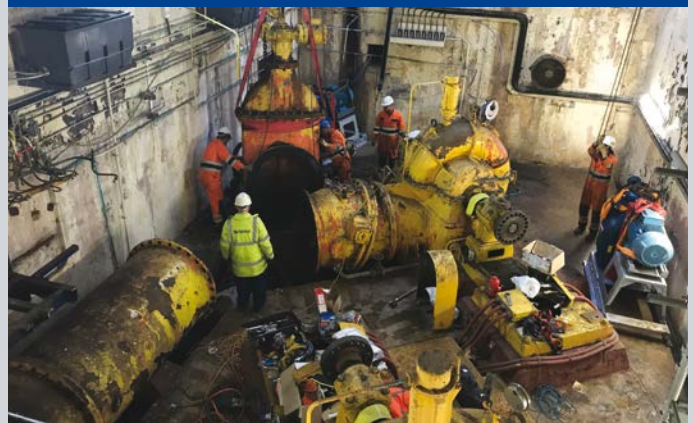
After the cast iron pipework was removed from site it was reassembled and precise measurements taken to create a template, a duplicate carbon steel pipework system was then fabricated in sections. Many of the pipework fittings were custom made including a DN1500 to DN1000 reducing tee and a 40-degree bend.

## Challenge

The logistics of the project were far from straightforward, as the pumping station is 8m deep and in line with the base of the dock. The entry to the pumping station was via a 2.6m<sup>2</sup> access hatch at ground level, with materials having to leave and enter this way. Completion During site work, our engineers adhered to rigorous Health & Safety guidelines. The entire team had successfully completed confined space training, and an emergency response team was readily available at all times.



Extraction of the old pipework, gate valve and check valve



Installation of new pipework, electrically actuated knife gate valve, flange adaptor, and slanted seat check valve



# Mechanical Installation

## Project Focus - Llyn Brenig Reservoir

### Project Overview

Our objective was to enhance the safety, reliability and resilience of the scour system and upgrade the emergency draw-off system, enabling remote operation.

### Specific Requirements

This project was classified 'Gold Command' due to single point of isolation during repair works, we replaced the existing bulkhead gate and primary gate as well as supplying a new secondary gate. The existing bulkhead gate was holding back 250 tons of water; therefore we supplied a bespoke large, fabricated bulkhead and roller gates (2800mm x 3900mm). In addition a primary gate (2000mm x 2550mm) and a secondary gate (1800mm x 2550mm), all were manufactured in stainless steel and hydraulically operated.

### Challenge

The tower itself was situated in the middle of the reservoir and all works had to be conducted whilst the reservoir remained fully operational. This involved a high level of risk and had to be carefully managed and coordinated.



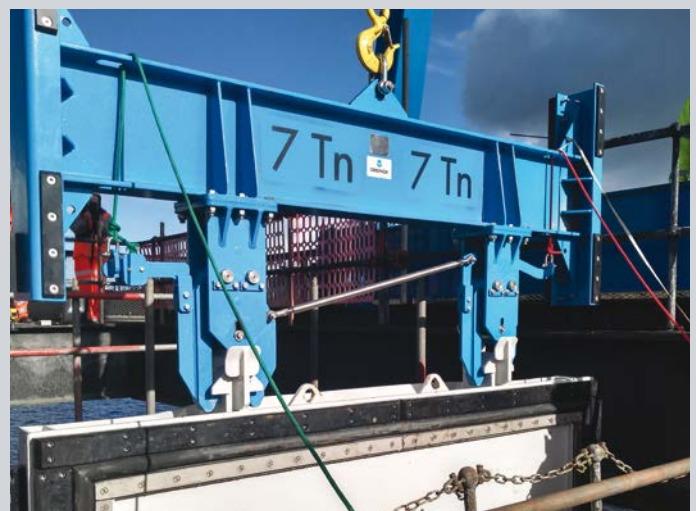
Bulkhead Gate being loaded onto Pontoon for transportation to Intake Tower



Secondary Scour Gate in position



Primary Gate & Frame at FAT inspection



Specialist lifting gear supplied for Bulkhead Gate

# Electrical Installation

## Refurbishment - Actuators & Controls

Our highly professional team are experts in the design, installation, repair and maintenance of actuators and electrical controls.

Glenfield Invicta's reputation is second to none, with a strong background in engineering and electrical application. Our unrivalled level of experience ensures we meet and exceed customers' requirements.

We have grown to become a world leader in the design and manufacture of industrial valve actuators and control systems within the water & sewage sector.

Our innovative research and development activities guarantees we can design any electrical actuation issue and supply and install the correct solution for the application.

We recognise there is a need to consider all manufacturers, therefore we work closely with ALL leading manufacturers to ensure we supply the best product to suit the needs of our customers.



# Electrical

## Refurbishment - Actuators

Our knowledge & experience of valve, penstocks and actuators defines how we support the UK water utility companies to manage their business.

Many assets require more intensive attention as they get older, with more frequent inspection and replacing of components to help manage the risk of failure.

By understanding the health of an installed asset and its leading-edge performance, our customers are able to focus their maintenance investment into assets of poor health and with the largest risk of failure, as well as plan a resilient and proactive service programme for both now and future operation.

The longer that healthy assets operate efficiently the more value they deliver to the customer and the environment. Being able to predict and minimise the risk of operational deterioration or complete asset failure is the key objective to drive down the level of reactive maintenance and unplanned outages by identifying potential issues before they occur.

### Actuator & Gearbox Maintenance Repairs

We specialise in the repair, maintenance and life extension of actuators and gearboxes. We offer service agreements for customers who require the benefits of planned maintenance. We will undertake to service equipment at regular intervals, regardless of make, manufacture or age. We supply a full condition report on the work done and the condition of the equipment.

Our Engineering Site Services team are all OEM trained and offer mechanical and electrical repairs to a wide range of equipment including actuators & gearboxes for most manufacturers. We provide a fast and efficient service maintaining efficiency and reliability whilst minimising equipment downtime. Work is carried out by an experienced team of engineers both in situ or at our workshops located throughout the UK.

Throughout the process of initial investigation to reinstallation customers are kept updated.

- Fault investigation
- Isolation & removal from service
- Workshop diagnostics
- Sourcing of components
- Workshop equipment repair
- Soak testing
- Functional checks
- Site installation





# Electrical Installation

## Project Focus - Fazakerley Water Treatment Works

### Project Overview

One of our major water utilities, approached us to inspect eight actuators that had been submerged under water for several days. On scoping the site we found the actuators were Rotork and approximately 30 years old. We removed two of them from their location and opened them up to find them full of water, which in turn had blown the motor and taken out the breakers in the panel. The only obvious cost solution was to replace all eight actuators.

### Specific Requirements

Glenfield Invicta specified the current Rotork model to cope with the operating torques of the valves and provided a price to supply, install and commission them. We were also asked by the client to replace both the power and communication cables, together with cable tray to all eight as this too had been under water and was in a very poor state. We used actuators from our stock holding and using our in-house OEM trained actuator engineers, we were able to carry out the work within a week.

### Challenge

The site and application were critical to over 100,000 homes, therefore time was of the essence and by having all eight actuators in stock and our own multi-skilled engineers we were able to prioritise the work to be able to react to the timescale the client demanded.



# Asset Management & Maintenance

## EXPECT... Long-Term Partnerships

### Valve Health Check

Glenfield Invicta specialises in supporting our customers with automation and control components for actuated and non-actuated valves and penstocks.

We have decades of experience in supporting the Water & Wastewater sector, paired with a trusted supply chain that allows us to evaluate on site assets and determine their performance and life expectancy, based upon obsolescence and spare part availability.

We understand the unique issues that our customers experience in a variety of demanding applications and tailor our service to suit each and every individual site or asset needs.

Assets are often used past the obsolescence date set by the OEM, when breakdowns occur, replacement parts can then be rare and difficult to source. Our expertise in obsolete automation helps us to source rare or re-engineer substitute parts to ensure you can manage maintenance at your facility.

We also advise on a critical spares inventory, ensuring spare parts readily available for any unplanned downtime that may occur. We help you arrange this spares inventory for any manufacturers on site.

### The Power of Predictive Analysis

Glenfield Invicta can collect vital valve and actuator health data from the field and provide a realistic performance information that can generate predictive failure modelling.

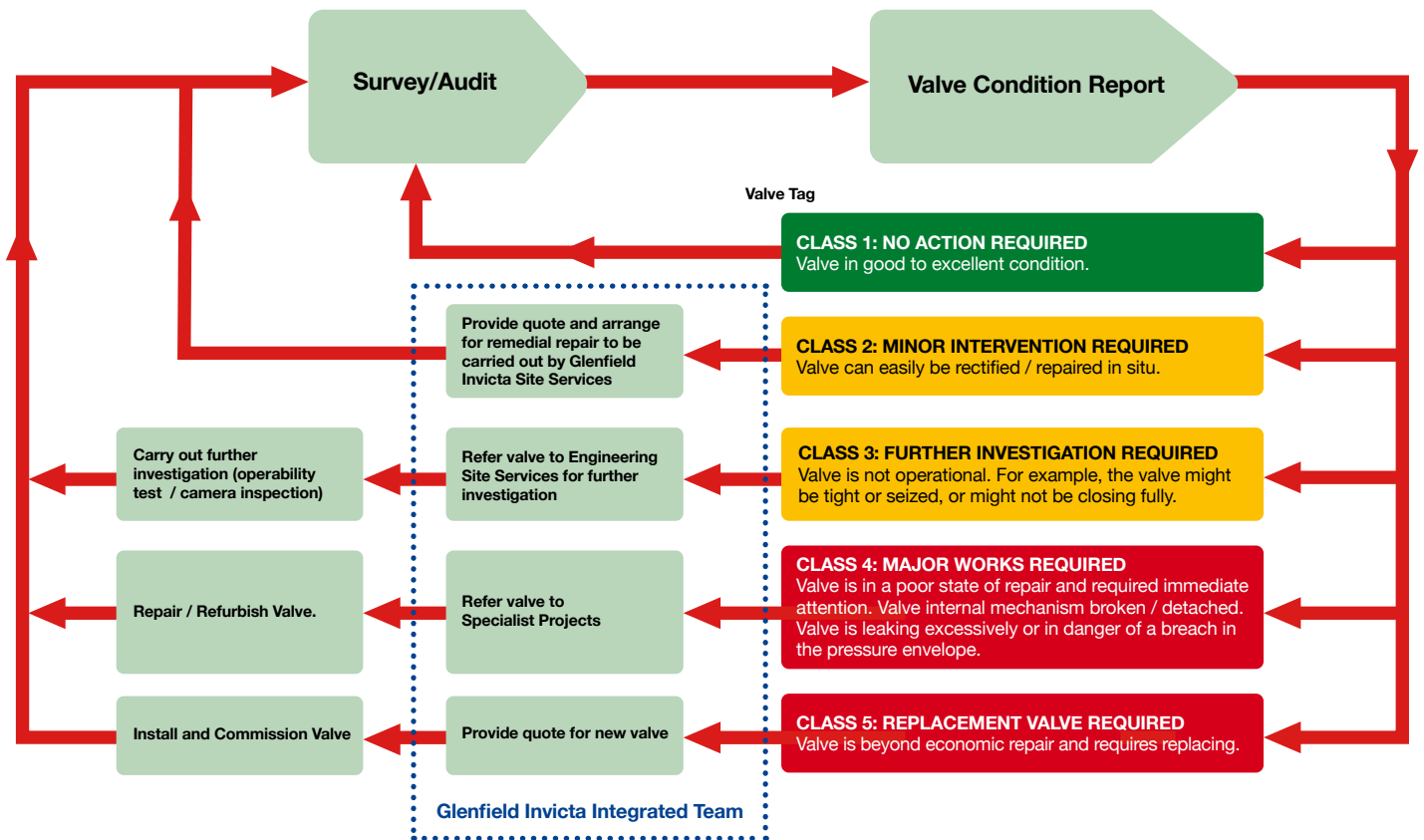
This approach enables us to review diagnostic health data from multiple sources, including condition history to determine trends and predict impending valve deterioration, which means maintenance can be scheduled and performed well before an operator alarm is triggered.

### Do You Know the Health of Your Valves?

Focusing on valve and actuator maintenance, reliability, and performance is essential. Valves play a vital role in process availability. Being aware of when they require attention can significantly impact whether you face unexpected expenses or unplanned downtime. By conducting on-site equipment health checks, we can help avoid downtime, reduce costs, and seamlessly incorporate technology upgrades into daily operations, increasing return on investment.



## Valve Cam



## Valve Cam – Complete Asset Management

A majority of customers operate a Reactive Maintenance Programme and wait until their assets breakdown before carrying out any maintenance, resulting in major downtime and often replacing the asset with new, which can take many weeks to resolve.

We frequently respond to service calls of this nature, but we also provide an alternative: preventative maintenance. We assist our customers by preparing their assets for opening and closing, as well as ensuring proper lubrication. We also offer the ultimate service package, which is an MOT to Water Utility Assets and surpasses the preventative maintenance offer by monitoring the asset through sensor, looking for changes in its condition on a regular basis. This allows us to notify or automatically attend site to repair the issue before the client knows there is a problem.

We initially attend site and inspect the asset(s) and carry out a comprehensive survey, giving each a traffic light score.

**Green**

**Good condition:**

little or nothing to do

**Amber**

**Good Condition:**

but work needed to bring it back to Green

**Red**

**Poor condition:**

to replace or carry out major work to bring in back to Green

A full and comprehensive report is submitted to the client with our recommendations and a cost to bring each asset back to a Green condition. The Quote also includes the price to retrofit sensors and linking each one to our monitoring software AVK Assist. We also include SQ Codes on each which provide the client and ourselves with a record of what has been done to each asset, together with photo's and geo mapping, making it easy to monitor and easy to know what is needed if it were to ever require a future service.

# Smart Water & Pressure Management

## EXPECT... Lasting Innovations

### Streamlining the Installation of Smart Water Valves on Your Network.

In today's world, the integration of smart technologies into our infrastructure is becoming increasingly vital. One area where this is particularly evident is in water management systems. With concerns about water scarcity, leaks, and efficient resource allocation, there's a growing demand for solutions that offer real-time monitoring and control. Smart water valves and assets are at the forefront of this transformation, offering the ability to remotely manage water flow, detect leaks, and optimise usage. However, the installation process for these systems can often be complex and daunting. That's where our expertise comes in.

At Glenfield Invicta, we specialise in simplifying the installation of smart water valves and assets on your network. Our approach is centred on three key pillars: **expertise**, **efficiency**, and **reliability**.

**Expertise:** Our team comprises experienced professionals who understand the intricacies of smart water technology inside and out. From assessing your infrastructure to selecting the right valves and assets for your specific needs, we provide expert guidance every step of the way. Our knowledge extends beyond just installation; we also offer comprehensive training and support to ensure you get the most out of your smart water system.

**Efficiency:** We understand that downtime can be costly and disruptive. That's why we prioritise efficiency in our installation process. Through meticulous planning and streamlined procedures, we minimise disruption to your operations, ensuring a smooth transition to your new smart water system. Our team works swiftly and effectively, utilising the latest tools and techniques to get the job done efficiently without compromising on quality.

**Reliability:** When it comes to water management, reliability is paramount. You need to have full confidence that your smart water system will perform as expected, day in and day out. That's why we place a strong emphasis on reliability throughout the installation process. From ensuring robust connections to conducting thorough testing and quality assurance checks, we leave no stone unturned in guaranteeing the reliability of your system. Moreover, we offer ongoing maintenance and support services to address any issues promptly and keep your system running smoothly in the long term.



In addition to our technical expertise, we also prioritise customer satisfaction. We understand that every project is unique, and we tailor our approach to meet your specific requirements and preferences. Whether you're upgrading an existing system or implementing a new one from scratch, we work closely with you to deliver results that exceed your expectations.

By choosing Glenfield Invicta for your smart water valve installation needs, you're not just investing in cutting-edge technology – you're investing in peace of mind. Our commitment to expertise, efficiency, and reliability ensures that your smart water system is installed correctly the first time, giving you confidence in the integrity and performance of your infrastructure.

In conclusion, the installation of smart water valves and assets on your network doesn't have to be a daunting task. With the right partner by your side, it can be a seamless and hassle-free experience. At Glenfield Invicta, we have the expertise, efficiency, and reliability to make your smart water installation a success.

Contact us today to learn more about how we can help transform your water management system for the better.



# Fittings & Ancillaries

Leading manufacturer of fittings and repair clamps for the UK market.

The AVK UK Group of Companies supplies the Water, Wastewater and Gas Utility sectors with a complete range of pipe work fittings from bespoke fabrications to simple repair clamps, through a variety of flexible service offers ranging from products supplied for emergencies in a matter of hours to programmed supply for major capital projects.

Our modern dedicated manufacturing facilities have a full team of skilled personnel from CAD designers to welder/platers all of whom are dedicated to providing quality products to the customers requirements in line with our Expect... AVK promises. Glenfield Invicta Ltd support this service by supplying engineers on a 24/7 call out service. We offer an Inspection, Measure and Caliper of the Pipework Service and complete diagnosis and offer a supply and Installation solution

## Emergency Repair Clamp Service

AVK in the UK has a 24/7 emergency repair clamp service for water mains. We offer either a same day, next day, 2 to 3 day service or a delivery to suit your requirement.

**Via our dedicated hotline 0800 202 8228, we can supply:**

- Couplings
- Flange Adaptors
- Dismantling Joints
- Repair Clamps
- Under Pressure Tee Clamp
- Encapsulation Collars



At Glenfield invicta, we pride ourselves on our technical knowledge, quality, and Customer Satisfaction. We supply a range of manual, and powered valve operating equipment developed for the remote operation of a wide selection of valves, penstocks and actuators. These items are engineered to suit both multi and quarter turn valves and those with either rising or non-rising spindle configurations.

Our strategically located, purpose built workshops have the facilities and stock to manufacture all types of accessories to meet all our customer's needs, made from 316 or 304 stainless steel or mild steel, we can design and supply.

- Valve or Floor Mounted Pedestals
- Extension Spindles
- Guide Brackets
- Couplings (Bottom/Muff)
- Mounting Kits

# Sustainability

## AVK Group's Commitment to Sustainability.

Glenfield Invicta is part the AVK Group, a family-owned business employing nearly 5,000 employees with over 100 production and sales companies globally.

As a major industrial group of companies with an international footprint and first-class reputation, AVK recognises and embraces its responsibilities to contribute to a sustainable future for our society.

The UN's 17 Sustainable Development Goals (SDGs) guide global sustainable development until 2030. These goals acknowledge the interconnectedness of social, economic, and environmental progress. The AVK Group recognise our shared responsibility. SDGs 6 (clean water and sanitation) and 9 (Industry, Innovation, and Infrastructure) align closely with our business model, but we also engage with other goals strategically or through decentralised initiatives.

## SUSTAINABLE DEVELOPMENT GOALS



## Our Activities

In today's world, sustainability is everyone's responsibility. Our ongoing commitment to optimising processes and production benefits our company, employees, customers, and the environment. Traditionally, we have had a strong focus on innovation and development of new and optimised products of high quality and with a long lifetime and recyclability investments for the benefit of the company, our employees, customers, and the environment.

We recognise the environmental impact which is why we and all the production companies across the group are certified according to ISO 14001 in respect of environmental management.

## Repair, Refurb and Reuse

We have the experience and expertise to assess the viability of repairing and refurbishing assets, which has a positive impact on your Carbon Footprint as well as protecting vital resources and the environment.

## Valve Refurbishment Carbon Savings

### Glenhove and Gowanbank Pumping Station

**Issue:** The scope of works for both schemes included the removal, refurbishment, and re-installation of 4 x DN900 and 4 x DN600 submerged discharge valves situated in chambers used to store treated drinking water.

**Our approach:** We presented the client with a comprehensive solution that outlined the significant cost, timescales, and the carbon savings to refurbish the eight valves compared to replacing them with new.

**Carbon Saving:** 154 Tonnes\*



\*This figure represents the carbon savings achieved by refurbishing existing valves instead of manufacturing new ones. The calculation is based on the Inventory of Carbon and Energy (ICE) Database. 2019.



IF YOU NEED HELP WITH YOUR PROJECT, PLEASE EMAIL US AT: [ENQUIRIES@GLENFIELDINVICTA.CO.UK](mailto:ENQUIRIES@GLENFIELDINVICTA.CO.UK)

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