Capability Profile
Pioneering control and choke valves for optimum performance in extreme conditions and challenging severe service applications.

Design, development and manufacture of small bore subsea valves incorporating metal-to-metal sealing. Creative engineering to help solve operators’ design challenges.

Subsea innovation and multi-discipline engineering including innovative HPHT down-hole technologies for harsh environments.
Asset optimisation through World-Class Engineering Intelligence

With more than 50 years’ experience, Severn Glocon Group provides world-class engineered valve products and services to onshore, offshore and subsea plants across the globe. We provide leadership in design, manufacture and technical services for severe service control and choke valves, using reliability data from our unique performance evaluation systems.

These services are complemented by our wide range of mechanical isolation valves and actuators, along with proven operational plant support. We deliver world-class quality, which translates into optimum reliability and performance for plant operators globally; even in the most extreme environments.

However, we understand that the face of the energy industry is changing. To meet the technological challenges of the coming decades, we are laying foundations to take research and development activity to new heights. Our aim is to play a lead role in helping operators solve complex valve issues, including those associated with subsea applications, deep-water activity and mega-projects.

Severn Glocon Group holds world-class engineering intelligence at its core. This ethos is set to drive exciting new valve innovations to meet the evolving needs of the industry.

- Technical advisory services to improve control valve performance through intelligence-led management, repair, failure analysis, custom design and inventory management.

- Quarter and multi-turn isolation valve stock and supply, underpinned by in-depth technical knowledge and robust procedures for assured quality and dependability.

- Control and isolation butterfly valve design and manufacture, including large diameter HPHT valves in exotic materials for severe service applications.
Capital Investment Projects

Severn Glocon has a true understanding of the project drivers faced by our operators and EPC clients, and the absolute necessity of providing reliable, technically optimised solutions at the right price and to meet the project schedule.

Recognising that our valve products have a critical role in ensuring the efficient and reliable operation of the plant, we have developed an extensive range of both standard and severe service control and choke valve products which fully meet international standards for valve design and quality.

The range covers 1” to 42” nominal bore; globe, angle and rotary valve products, constructed in all recognised engineering materials, to meet any application. We design bespoke control, choke and butterfly valves, as well as actuators for critical applications, including control choke, discharge to flare, HP pump recirculation, compressor anti-surge, separator level control, water and gas injection and pipeline flow control.

Our manufacturing muscle means we can take large scale projects in our stride. Flexible capacity enhances quality control and ensures we deliver competitive costs, while our contract management infrastructure facilitates on-time delivery. Specialist contracts, such as those for LNG / cryogenic valves, FPSOs and mega-projects form a regular part of our work list.
Established Plant Support – maintenance, modifications & expansion projects

In addition to our EPC project capability, our Established Plant division is configured to focus on the key business drivers for the maintenance and operation of production plants and modification projects.

Our team of globally based applications engineers works with clients to ensure the intelligent selection of valve and trim configurations, both to meet current operational conditions and interface modification projects. Backing up this capability is our renowned Repair Intelligence Logic® that utilises long-term, actual performance results and failure mode analysis in order to inform valve selection.

Maintaining operating plant also requires an understanding of emergency replacement and shutdown programmes. Our reputation is based on rapid and flexible repair, upgrade and manufacture. We use dynamic manufacturing techniques delivered through a dedicated infrastructure. Locally based engineers provide experienced technical support through strategically located repair facilities.

Our strategy of design innovation, technical excellence, service ethos and reliability improvement sets us apart and is tangible throughout our Established Plant businesses of Severn Unival, Severn Ball Valves, MARS Valve UK and Severn Leeds.
Applications & approvals

Recognised worldwide as a leading approved supplier of control and choke valve design solutions, Severn Glocon products provide optimum operational performance for some of the most challenging industry areas and applications including:

**Upstream oil & gas production**
- Compressor anti-surge recycle
- Pump minimum flow recirculation
- Separator level control
- Production & re-injection choke
- Discharge to flare
- Export pump minimum flow recirculation

**Gas gathering, LNG & NGL production, export & import facilities**
- Compressor anti-surge recycle
- Discharge to flare
- Cryogenic applications
- Joules Thompson valves
- Methanol / glycol injection

**Oil & gas transition pipelines**
- Pressure reducing stations
- Black powder contaminated applications
- Pipeline flow control

**Subsea**
- Control fluids
- Well fluids containing H₂S / CO₂ gas
- Injection chemicals

**Water services**
- Power cooling water & steam
- Desalination
- Firewater protection systems

**Chemical & petrochemical process**
- Ammonia syngas
- Chlor-alkali
- Cryogenics

**Metal treatment**
- Aluminium production
- Iron & steel
- Furnace exhaust

**Air separation**
- Cold box
- Joules Thompson valves
- Top entry designs
- Compressor anti-surge
- High process oxygen valves for pressure reduction stations
- Distribution valves
- Bulk handling valves for UHP gases for semi-conductor industry

**Discharge to flare**

**Cryogenic applications**

**Joules Thompson valves**

**Methanol / glycol injection**

**Our products are approved and used by all of the major energy industry operators across the globe and we have supply references for all of our focused applications and geographic targets. We are fully certified in line with ISO 14001 and OHSAS 18001, using regulatory requirements as a minimum baseline for in-house environmental and health & safety policies.**
Project & contract management

Severn Glocon fully appreciates the need to provide quality products, to schedule, for our EPC and plant operator clients and to communicate with them throughout the delivery process.

All customers are assigned a primary contact, or project manager (PM) who oversees every stage of order processing, from design and production scheduling, testing and despatch, including communication and document control.

The PM provides an important link between the client and the production facility and a crucial role in the secure delivery of an order to meet the agreed delivery schedules. Our local applications engineers are also available for face-to-face contact during a project.

Commissioning & aftermarket support services

Severn Glocon believes that the responsibility for supporting the products we supply to our customers should remain with us and not be placed on organisations outside the Group's control. For this reason, we employ our own specialist aftermarket support team.

☑ Field commissioning teams strategically placed in key geographic locations offer experience, product and process knowledge.

☑ Spares support for whole-of-life maintenance, reliability and inventory management programmes.
Design & manufacturing centres

Severn Glocon’s investment in design and manufacturing centres combines the best of British engineering and the cost benefits of global sourcing and localised completion. This structure offers customers a flexible combination of design and manufacturing to deliver the most cost-effective valve solutions.

We have five primary manufacturing and design centres, supported by assembly and testing capabilities local to our end users.

Gloucester, UK: headquarters and primary centre for major projects, cryogenics & industrial gas.

This state-of-the-art engineering facility offers a full range of services for the majority of the company’s high specification standard and severe service valve products and major projects. The facility is also the centre of excellence for all our industrial gas and air separation product development, manufacturing and specialist testing.

Brighouse, UK: dynamic manufacturing for custom design and fast track delivery.

Our purpose-built Brighouse facility offers maximum flexibility in design and manufacture. Workstation layout conforms with lean manufacturing principles, and a prestigious Valve Innovation Centre enhances R&D activity. Systems have been optimised and configured with the flexibility to enable fast track delivery to meet the needs of shutdown and operational support.
All centres have world-class design, machining, testing and commissioning facilities including:

- Advanced 3D CAD design linked to machining via EdgeCAM production engineering.
- Multi-machining centres providing a full range of capabilities.
- Full weld overlay and coating facilities.
- Industry leading facilities for high & low-pressure testing, fugitive emissions and cryogenic testing.
- Clean room testing for specialist air separation and hygiene applications.
- Automation & controls commissioning, including all major diagnostics systems.
- In-house specialised paint and coating systems.
- Focused, intelligence-led R&D geared towards solving complex technical challenges.

Chennai, India: alternative manufacturing centre to Gloucester for all valve products.

The wholly-owned, modern manufacturing plant provides the same world-class capabilities as the Gloucester facility, with an identical QA system, but its location enables us to be highly competitive on price. The Chennai facility is fully qualified to manufacture CE/PED certified valves.

St Ives, UK: Severn Technology Centre

Modelling and engineering design services, coupled with a machine shop equipped for manufacturing prototypes.

Stroud, UK: niche subsea manufacture

This facility is dedicated to the design and production of small bore subsea valves. It also houses a standalone Filters & Dryers manufacturing centre.
High performance control & choke valve products

Severn Glocon designs and manufactures an extensive range of control valves, choke valves and pneumatic actuator products to suit both standard and severe service applications, produced in sizes from 1” to 42” nominal bore.

- Series 1000 & 1200 Globe Control Valves
- Series 3000 & 4000 Globe Control Valves
- Series 5000 Globe & Angle Control Valves
- Series 5500 Globe & Angle Control Choke
- Series 7000 Ultra High Purity Severn HPBV
- Series 8000 Butterfly Valves
- Series “P” Piston Actuators
- Series “W” Diaphragm Actuators

We are also unique in offering an extensive range of standard and customised trims, manufactured to provide optimum performance for any application. All of our valve products fully meet the design, accreditation and legislative requirements of CE/PED and quality requirements of ISO9001:2008. They comply with ANSI/ASME, API in pressure and temperature ratings from ANSI/ASME 150 to 4500 & API 3000 to 15000.

Our trim assemblies are at the heart of our performance capability, with unique design characteristics and a full range of high integrity materials.
Valve repair, technical support & management contracts

In addition to the supply of world-leading products, Severn Glocon offers a comprehensive long-term service capability which supports plant operators in the management of their entire valve population.

Our focus is on the management of critical valves throughout a plant, optimising long-term performance, protecting against critical valve service failure and ensuring compliance with statutory inspection.

**Critical valves**
- Severe service control applications
- Emergency shutdown
- Pressure safety relief

**Main sector operations**
- Oil and gas
- Power
- Water

The Severn Glocon Group has provided service and engineering support for over 30 years, delivering a rapid response for any valve repair required – from a single valve, to major shutdown activities.

We deliver high quality repair, upgrade and replacement solutions for our own valves and those of other suppliers, drawing on our engineering expertise and client relationships to better understand process conditions and continually develop improved solutions.

To facilitate delivery to our clients, the Group operates four service centres in the UK, as well as operations in Qatar, Abu Dhabi, Iraq and St John’s, Newfoundland. We also have licensed partners in Australia and Malaysia.

We can reference long-term valve management and technical support contracts with world-leading operators including Shell E&P, Marathon Oil, Saudi Aramco, Exxon Mobil, BP, Suncor and Statoil.

This unique combination of high quality product supply and long-term service management sets Severn Glocon apart as a provider of choice across the world.
Performance+

Our clients benefit from an in-depth understanding of application engineering and operating performance that’s facilitated through the field expertise and design experience of our Performance+ team.

Its services have created long-term solutions for critical valve problems across the world, bringing real value to plant operations.

Using our unique Repair Intelligence Logic® the team assesses actual performance results and failure mode analysis in order to develop valves with improved design features that offer better and more reliable plant performance through modification, upgrade, retrofits, or complete custom designed valve solutions.

Contracted clients also benefit from our ability to issue technical advice in support of new legislation, HSE advisories and responses to technical developments.

Opera Valve Management (OVM)

Developed by Severn Glocon, OVM is an intelligence-led operating tool that delivers real-time data on valve condition and performance.

OVM records and retrieves information on all valves going through our workshops, or under our management. As a web-based tool, OVM provides clients with detailed, real-time decision making information on each individual valve in their plant, benchmarked against over 30 years of historical performance and failure mode data.

They can then use OVM to back up pre-shutdown surveys, plan maintenance routines and shutdown work scopes, as well as viewing P&ID, BOM and maintenance data.
Severn Ball Valves

Severn Ball Valves supplies a wide range of high integrity, quality assured quarter and multi-turn isolation valves and actuator products, either as stand-alone emergency items, or in support of the Group’s ability to supply complete package solutions for capital and modification projects.

Valves are either supplied from our extensive stocks, or sourced on demand from a global supply network. Products include trunnion mounted and floating ball valves, gate, globe, check and butterfly, in bronze, aluminium bronze, carbon steel, stainless steel, duplex and super duplex. Our valve stock is specified to all primary API and EU standards, including Norsok and API 6a & 6d.

Our Valve Automation Centres in Aberdeen and Dubai clearly demonstrate our engineering experience in valve and actuator design, supply, packaging and maintenance, as well as the company’s drive train engineering capability.
Subsea capabilities

Strategic acquisitions of small bore subsea valve specialist LB Bentley and an HPHT down-hole technology design expert put deep water expertise right at the heart of Group operations.

As oil and gas exploration heads into ever deeper waters and more extreme conditions, we are focusing on delivering breakthrough valve engineering solutions for the most challenging subsea applications.

With a 25-year heritage in field-proven small bore subsea valves, LB Bentley provides extensive subsea expertise. Severn Subsea Technologies brings technology and knowledge for harsh HPHT applications and environments.

These insights are driving a new generation of ideas which form a core part of ongoing R&D activity. An intelligence-led approach enables us to identify potential technology gaps and focus relevant engineering expertise in the right places.

R&D hub

Severn Subsea Technologies’ Redruth (UK) facility operates in tandem with the Brighouse-based Valve Innovation Centre. These two centres of expertise and technology development feed new ideas directly into the Group’s manufacturing hubs.

Small bore subsea valves

Incorporating metal-to-metal sealing for optimum reliability, LB Bentley’s rotary gate valves, through conduit gate valves and check valves can be custom designed to suit restricted space envelopes on Christmas trees and manifolds.

Robust and simple, each of the valves can suit many applications and various media, from hydraulic fluids to well fluids to injection chemicals.

Minimal moving parts and a time-saving quarter-turn mechanism enable manual or hydraulic operation. Even in the event of over-torque, the internal parts cannot be damaged.

- 100% metal-to-metal sealing
- Compact, robust design
- Fully compliant with current subsea qualifications
- Qualification and client testing for long-term reliability
Butterfly Valves

Innovative butterfly valve solutions for critical shut-off and control applications are the speciality of Severn Leeds.

Highly-engineered to meet extreme temperature ranges, from cryogenic to more than 1800°F (>1000°C), and pressures up to 2500# our valves provide optimum assurance and reliability in the most severe conditions.

Fully integrated with Group valve manufacturing and sharing the Group’s sizing tools and R&D capability, Severn Leeds valve designs are mature but also continually evolving.

Products can be designed and built in sizes ranging from 2” to 100” in a wide range of materials. Valve types include:

- High performance
- Low noise / anti-cavitation
- Swing-clear & step seat
- Refractory lined
- Large rubber seat and disc seal

Filters & Dryers

This niche division within LB Bentley specialises in the design and manufacture of bespoke medium and high pressure filters and desiccant dryers for demanding environments.

Products are typically deployed as modules within compressors destined for challenging applications. These include riser tensioner systems for the offshore industry as well as defence standard ‘pure air’ for thermal imaging. Pure air systems are also used by the National Grid for air-blast circuit breaker operation.

Many LB Bentley filters and dryers have been operational for 40 years or longer. Attention to detail in both manufacturing and aftermarket procedures are the secret to this longevity.

An aftermarket service is also available. This is enhanced by the in-house production of components such as demisters, couplings, manual valves and pilot valves, which removes the risk of obsolescence and ensures parts are custom-made for products’ exact requirements.

Features include:

- In-house fabrication of key components
- Small batch manufacture
- Specialist one-off production when required
The Severn Glocon Group policy is one of continuous improvement and we reserve the right to modify these specification details without notice.

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