

# Pioneers in High Integrity Valve Actuation, Communication and Control Systems

Green **Carbon free** Net zero **Sustainable** Recycled **Clean energy**  
**Renewable** Biodegradable Low VOC **CO<sub>2</sub> emissions** Greenhouse Gases



We make *Soluti<sup>💡</sup>ons...*  
...not just *products*

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## Solutions for a Sustainable Low-Carbon Future

Shareholder initiatives, climate protests and government net zero targets are all piling pressure on industry to reduce carbon dioxide emissions through new technology and improved monitoring of existing infrastructure to ensure maximum efficiencies are achieved.

To meet global climate objectives, traditional energy companies are shifting their focus and their investment towards renewable and low emission energy solutions. Diversification into the low carbon market will be big business with an estimated value of \$24 Trillion, and uptake of emission friendly solutions is accelerating in a bid to limit the effects of climate change.

Many countries around the world are working on projects which replace fossil based fuels and gases with renewable and low-carbon fuels and gases. As part of this strategy, an increased use of hydrogen produced from renewable electricity is likely to play a key role in the progressive decarbonisation of the energy sector.

To achieve and reach these goals, Users and Operators alike will need technology partners who deliver more than just products, but who can provide engineering solutions. Imtex Controls is a reliable partner offering sustainable solutions for the low carbon industries achieved through constant development of product quality, material efficiency and operations.

**Solutions through Intelligent Design**  
Imtex Controls is recognised as a leading technology partner specialising in the production and supply of advanced, high integrity valve actuation, communication and control systems for the energy, marine and process industries for over 30 years. Imtex products are suitable for both on/off and modulating control of process valves installed in a range of industrial sectors, including oil & gas, marine, chemical, power and process. Products and services include pneumatic, hydraulic and electro-hydraulic actuators for both quarter-turn and linear valve systems, analogue & digital valve monitoring systems and diagnostic controllers for advanced communication and control solutions.

## Solutions that Lead the Way

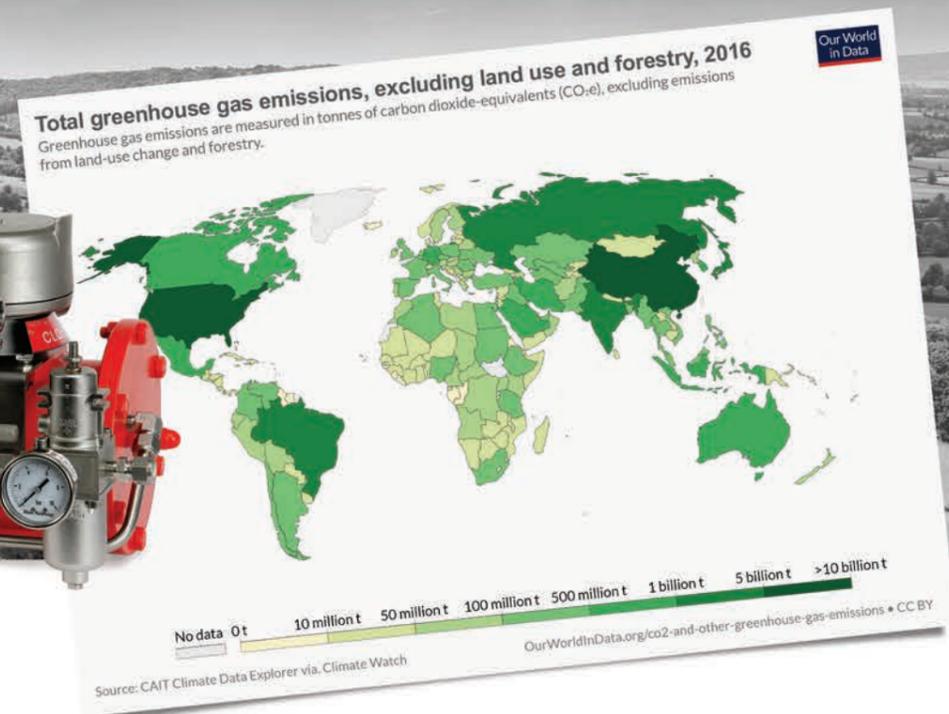
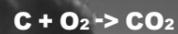
Imtex products cover ATEX Certified high integrity pneumatic and hydraulic valve actuator systems including the unique Camtorc series actuators in steel or 316 stainless steel construction, ATEX / IECEx Certified valve monitoring, transmitter, diagnostic & bus communication systems and ATEX / IECEx Certified proof testing (PST & FST) devices.

Imtex Controls has the product solutions for this emerging market. The Camtorc Actuator and Imtex Valve Communication products can be deployed for use in Blue and Green Hydrogen Production systems, Carbon Capture and Storage schemes, Biofuel Production Processes and Waste to Energy projects. The products deliver greater efficiencies and sustainability for these projects, helping to achieve their low emission targets.

Our Company vision is to become a leading diversified valve automation company offering reliability in a low carbon future. The company's uniqueness is based on being an independent producer of high quality products and services with expertise and a proven track record. With its own dedicated technical engineering sales and service personnel, Imtex Controls is further enhanced by a growing network of channel partners across Europe and the rest of the World.

In 1874, the well known science fiction author, Jules Verne wrote, in his book *The Mysterious Island*, of a world where **“water will one day be employed as fuel, that hydrogen and oxygen, which constitute it, used singly or together, will furnish an inexhaustible source of heat and light, of an intensity of which coal is not capable”**

**2H<sub>2</sub> + O<sub>2</sub> -> 2H<sub>2</sub>O -> Zero CO<sub>2</sub> emissions**



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## Solutions for Whole Life Performance

### Why select Camtorc?

Camtorc is a specialist manufacturer/supplier of pneumatic and hydraulic actuators for both on/off and modulating valve and damper systems.

The unique cam mechanical design offers simple, backlash free operation providing extended life of seal and components. In comparison with a conventional scotch yoke or rack & pinion actuator, the Camtorc actuator provides high actuation efficiency in a compact design, limiting the space envelope and associated costs of an installation.

Camtorc actuators are based on proven design mechanism and are produced from top quality materials. Every part is meticulously selected and subjected to stringent ISO 9001, ATEX and material quality inspection procedures ensuring excellent technical performance and long service life.

### Camtorc actuator benefits

- Reduced installation costs
- Reduced operating costs
- Lower maintenance requirements
- Improved plant safety

### Solving Valve MAST Issues

The Camtorc series pneumatic actuators are designed to ensure compact and safe operation of valves and dampers with a constant torque being generated throughout the entire pressure stroke of the actuator. The lack of internal gearing means that backlash is eliminated, making the Camtorc actuator an excellent choice for modulating control applications whilst the unique dual piston design offers excellent characteristics for valves with relatively low Maximum Allowable Stem Torque (MAST) values.

### Key Features

- The unique cam design offers a highly efficient and simple, backlash free operation providing extended life of seals and components
- Actuators are available without any external tie-rods that are susceptible to corrosion over time
- Dual Piston Design on Spring Return actuators significantly reduces the potential for Valve MAST issues occurring
- The compact design of the pneumatic spring return version provides smaller envelope dimensions when compared with conventional actuator designs
- Lower swept volume demands when compared to conventional actuator designs
- Camtorc actuators are exceptionally low wearing providing low maintenance and the optimum Whole Life Cost Solution for the end user

## Solutions for Harsher Environments

Camtorc actuators are specified for and operate in some of the World's most critical and demanding applications as found in the oil & gas, energy and marine industries.

Camtorc Extreme Service Actuators (produced in torques up to 30,000 Nm in either pneumatic or hydraulic versions) offer the same innovation and reliability found in all Camtorc actuators, but with the technical performance to operate in the harshest and most demanding environments.

### Solutions for Fail Safe Actuation for Electrical Power

Camtorc Electro-Hydraulic Actuator Systems are a means of providing fail-safe actuation where only Electrical Power is available. Increasingly, Electro-Hydraulic Systems are being preferred to Pneumatic and Hydraulic options as they place no demand on often over-stretched compressor and HPU infrastructure.

Many Electro-Hydraulic Systems, however, can be complicated, expensive and prone to problems that can compromise plant safety. The Camtorc Electro-Hydraulic System is specifically designed to offer simple and reliable control of process valves with a reduced number of components to improve reliability and performance.

### Solutions for Linear Valve Actuation

The Camtorc range of linear actuators provides highly reliable, pneumatic or hydraulic actuation for linear valves (gate, globe and knife gate). Linear piston operated actuators are available for pneumatic and hydraulic applications in either double acting or spring return configurations with a full range of control accessories. Piston actuators allow for a high thrust to weight ratio because they can operate at higher supply pressures. The all steel or 316 stainless steel construction can withstand severe-service environmental conditions.

### Key Features

- Spring return fail-open or fail-close versions
- Adjustable stroke lengths
- Valve mounting bracket
- Manual override
- Wide range of accessory options
- Special applications



▽ camtorc-mechanism



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## Solutions for Valve Automation Services

### What is MATIC?

MATIC supply a complete programme of pneumatic and hydraulic actuator systems for the on/off and modulating control of valves and dampers as used in the oil, gas, marine, power and process industries. Utilising many years of field application experience within the area of valve and damper automation, MATIC actuation solutions are engineered to provide technically advanced solutions conforming to the latest international standards.

### Intelligent Engineering Design

The challenge for engineering today is to reduce the cost of products whilst improving their quality and reliability.

### Engineering Commitment

- Designing quality valve automation systems that are easy to install, use and maintain
- Make designs reliable and efficient in functionality
- Continuously seek new design solutions to meet current user demands
- Revise existing designs in order to make them more efficient and simpler to produce
- Ensure designs are simple in concept but are safe and environmentally friendly
- Work with the latest control technology in accordance with international standards



## Solutions for Shutdown Valve Proof Testing without the Risk of Spurious Trips

With process-based industries continually seeking to make their plants more efficient, more reliable and above all safer operating environments, a number of valve test and verification strategies have been developed to facilitate this. Where operators employ Shut-down Valves to prevent dangerous plant conditions developing, the concept of Partial Stroke Testing (PST) has been promoted to improve efficiency, reliability and safety. Unfortunately, many operators choose not to utilise PST capabilities because of the associated risk of a Spurious Trip occurring.

Imtex engineers developed the TripGuard system to eliminate the risk of spurious trip, allowing operators to get the full benefit of PST implementation.

TripGuard ensures that the Camtorc actuator operating the valve is never fully vented during PST. Even if a component in the PST system should fail, the actuator is unable to fully close the valve unless the main Emergency Shutdown (ESD) system de-energises the valve system's primary ESD solenoid. The result is a guaranteed no closure on PST whilst the ESD valve remains fully available for closure in the event of an ESD trip occurring.



## Solutions for Valve Position Monitoring and Communication Systems

Our Imtex Valve Communication range cater for a variety of applications and process industries for general purposes and hazardous area environments. All products are designed for a long service life and low maintenance meaning that operating downtime costs are kept to a minimum.

All systems are engineered to be safe, easy to install, use and maintain. The designs comply with the applicable sections of international standards and to the requirements of the latest European Directives covering functional safety and the environment.

**Applications:** Intrinsically Safe, Flameproof and Encapsulation Hazardous Protection for End of Travel and/or Continuous Feedback.

**Materials:** 316 Stainless Steel (CF3M & CF8M), Anodised Aluminium and Polycarbonate.

**Electrical Functions:** Mechanical Switches, Reed Proximity Switches, Inductive Proximity Sensors, 4 to 20mA Feedback, HART and Fieldbus Protocols.



### Key Features

- Close coupled mounting design
- Up to 6 switches or 4 switches with transmitter
- Screw-on and bolt-on cover designs
- High visibility position indicator
- Easy access terminals
- IP66 / 67 / 68 protection
- Certified: ATEX / IECEx Ex i (intrinsically safe), Ex d (flameproof) or Ex me (encapsulation / increased safety)

## Solutions for Valve Condition Monitoring and Testing

Our Valvescan valve controller is an integrated valve information device for Emergency Shutdown (ESD) valves. It combines valve position monitoring, online performance monitoring and Full Stroke Test (FST) or Partial Stroke Test (PST) functionality.

The Valvescan device is an information hub for the ESD valve, enabling plant operators to verify the capabilities of the most critical valves in their installations without having to significantly modify existing operating methodologies.

Valvescan controllers are offered in an IP66/67 CF8M (316) stainless steel enclosure for superior corrosion protection and mechanical resistive properties  
 Optional: CF3M (316L) stainless steel and coated, hard anodised aluminium.



### Key Features

- Full or partial stroke test functionality
- Local or remote initiation
- Online condition monitoring offering data harvesting during shutdown activation
- Option for independent Solenoid Valve test
- Various communication protocols including HART, Modbus and Bluetooth (Optional: Foundation Fieldbus)
- Smart calibration allows easy installation and configuration
- Integral independent position feedback using a continuous feedback transmitter and/or discrete switches/sensors
- Compact design offers considerable space saving without compromising installation or maintenance
- Certified: ATEX / IECEx Ex i (intrinsically safe) and Ex d (flameproof)



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## Solutions for 24/7 IIoT Valve Health Monitoring

ValveHealth™ Monitoring is a cloud based application for 24/7 overview of valve condition. Operating 'in the Cloud' ValveHealth utilises State-of-the-Art servers based in high security, specialised server farms to ensure 24/7 'up time' on the system using 'Bank Grade' cyber security.

Even though ValveHealth has no control functionality and has no means of affecting plant operations, the system infrastructure and security protocols ensure client data is stored to the highest levels of cyber security to prevent data reaching unauthorised hands.

Designed to operate in a standard web browser, ValveHealth can be accessed from any device with a Web connection and is extremely simple and intuitive to navigate. Every site / client has a dedicated interface specific to them. This allows important site / client and user information to be displayed and configured to individual needs.

Every automated valve event is recorded and databased within ValveHealth to provide a full performance history for the valve automatic event analytics. As well as providing a valve history, ValveHealth also analyses events and compares new events against 'baseline' data defined for the valve. This allows performance flags to be generated.

In addition to the automated events generated, ValveHealth allows Imtex Monitoring Specialists to undertake a much more detailed review of the valve performance and issue advisory actions as required. New valves can be added to the system with an automated import using existing valve data sheets. Similarly, new client users can be added and configured without fuss.

Every valve in ValveHealth is displayed with a ValveHealth percentage value – a quick reference health check for the user maintenance history. ValveHealth also allows users to log any maintenance performed on the automated valve, enhancing the valve history records.

If desired, ValveHealth can send automated or reviewed alerts to specific client personnel or valve service providers to allow preventative maintenance to be performed.

### Key Features

- Works with any existing valve system without any special considerations
- Monitors every operation via an onboard controller which records key performance data
- Enables data retrieval and transmission to the Cloud without intervention from plant personnel or risk to the plant process control system databases
- Analyses every valve operation and provides a real-time health check on the valve, as well as full valve history within a site-specific web portal
- Provides alerts to personnel when performance drop off is detected and compromised



Please contact us to discuss how we can assist in the development of the emerging low carbon energy market or if further information is required.