



Gas Control Equipment

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GCE GROUP ANNOUNCES NEW RESEARCH AND TESTING FACILITY

The pioneering facility will make the global gas industry safer

Malmö, Sweden, 3rd July 2018 – GCE Group has launched a new research and testing facility at Chotěboř, Czech Republic, to raise the standard for safety and performance across the gas industry.

Gas control equipment is investing in cutting-edge technology to challenge existing standards and expand knowledge of the behaviour and lifetime effects of a diverse range of materials involved in the use of pressurised oxygen.

GCE is particularly focused on testing the ability of components to withstand adiabatic compression, a much-misunderstood phenomenon that can pose a serious fire hazard if overlooked. The research comes at a critical time for the gas control industry, following a growing number of globally reported Oxygen gas incidents that underline the need for greater awareness of the complex-and dangerous-properties of pressurised oxygen.

In Europe and US, there are two main competing standards, from the International Standardization Organisation (ISO) and ASTM International (American Society for Testing and Materials). GCE asserts that ASTM, favoured by the US, is the more rigorous standard and should be adopted as the global minimum. The European Union currently only requires compliance with the ISO standard.

However, according to Gareth Pemberton, GCE Group Director of Innovation:

“Neither standard reflects the real-world demands placed on gas control equipment. We’re committed to ensuring safe operation when reality deviates from conservative laboratory conditions.”

The new facility’s design and control systems have been developed to meet both ISO and ASTM standard requirements for testing adiabatic compression while providing the capability to devise more demanding trials - including up to 400 bar. GCE’s experts are also evaluating a broader range of equipment that is common, including cylinder valves, integrated regulating cylinder valves, regulators, manifolds, safety equipment and any gas handling device for oxygen service.

GCE has invested in the latest technology in its pursuit of performance. A high-speed video camera with high contrast ratios and high frame rates enables the manufacturer to record external ignition propagation with extreme precision. This will be joined by an Auto-Ignition Test bench later this year, which will deepen understanding of ignition mechanisms and kindling chains of various materials and lubricants.

“At GCE we believe the gas industry should take responsibility for pioneering new testing techniques to ensure all systems are capable of withstanding higher levels of adiabatic compression,” says Gareth Pemberton. “At our new facility, we are subjecting a wider range of equipment to a heightened level of testing, applying more heat, more shocks, more oxygen and more contaminants.”

He added:

“Working together with the industry and our clients, we hope to establish higher standards for gas control equipment and ensure safer working environments around the world.”

Check out the new facility here: <http://www.gcegroup.com/en/oxygen-rtfacility>

For all press inquiries please contact:

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NOTES TO EDITORS

Adiabatic compression

Adiabatic compression occurs when high-pressure gas streams into a closed system, dramatically increasing pressure for a short time at the point of compression. This generates heat, typically at the end of the valve or regulator, that can exceed 1,000°C. At this temperature, o-rings and valve seals can melt. This can happen with any gas, but using industrial grade 99.% pure oxygen raises the stakes significantly. Materials that do not burn in air will ignite in pure oxygen, especially when under pressure. The risk is much higher if contaminants are present.

GCE Group

GCE Group is Europe's leading company in the field of gas control equipment. GCE products include valves, cutting & welding technologies, central gas systems and specialist healthcare products. The business is headquartered in Malmö, Sweden with two major supply units located in Chotěboř, Czech Republic and Shanghai, China. GCE operates from 18 subsidiaries around the world, including two new Healthcare facilities in the UK and the USA.