Simm Engineering Group, Unit 14 & 15, 31 East, Kingfisher Way, Dinnington, Sheffield, S25 3AF
sales@simmeng.co.com / service@simmeng.co.com
0114 244 0764
www.pps.co.com

CASE STUDY

Simm Engineering Group help Deep Branch Biotechnology find a reliable source of nitrogen

Company: Deep Branch Biotechnology

Deep Branch Biotechnology are a Nottingham based firm who have developed technology that uses microbes to convert carbon dioxide from industrial emissions into high value products such as animal feed. Building on pioneering research, they are exploring ways to transform the polluters of today into the producers of tomorrow.

As the lead partner of the REACT-FIRST project consortium, their work focuses on optimising and scaling-up the production of a novel and sustainable animal feed ingredient, their single-cell protein product, Proton™. The project and Deep Branch Biotechnology's wider efforts are playing a central role in the UK's efforts to reduce carbon emissions and improve national food security.

Traditional sources of protein from fishmeal or soy are often imported from the Americas with a large carbon foot print. Deep Branch Biotechnology aim to produce Proton™ protein in the UK and Netherlands with 90% less carbon intensity.

For more information about Deep Branch Biotechnology please visit their website - deepbranchbio.com

Project overview:

Specifying and supplying an Atlas Copco on-site nitrogen generator.

Facilitating connection to the control system so that it can be accurately monitored remotely.

What was needed:

The manufacturing process requires the use of hydrogen which needs to be carefully managed.

Deep Branch Biotechnology contacted Simm Engineering Group in search of a reliable on-site nitrogen generator to dilute the hydrogen to prevent fire and explosion.

What we did:

Following a consultation, Simm Engineering Group were able to supply an Atlas Copco GA5FF tank mounted air compressor and NGMs 3 membrane nitrogen generator.

The system needs to be carefully managed so a BMS interface was also supplied which allows accurate remote monitoring and control of the nitrogen supply.

Key benefits:

- Reliability and a 100% duty cycle were required in order for the process to run continuously for up to 21 days at a time
- The Atlas Copco NGMs 3 membrane nitrogen generator doesn't require power so energy and carbon emissions have been kept to a minimum
- The NGMs 3 nitrogen generator is capable of purities up to 99.5%
- Easy and accurate remote monitoring gives Deep Branch Biotechnology the capability to monitor multiple projects from their Nottingham head office

Why Simm Engineering Group?

Simm Engineering Group were able to design, supply and install the nitrogen generator to specification and facilitate connection to the control system. Our expertise and experience in supplying compressed air and nitrogen systems made us a useful partner and well positioned to work with Deep Branch Biotechnology as they conduct their research.

"It was great to be able to work with Rob and the team at Deep Branch Biotechnology. The application was new to us, but working closely with the team has been an exciting and educational experience.

"The work they do is great for helping the UK reduce its carbon emissions and we're proud to have been associated with such an exciting and dynamic firm."

Andrew Martlew, Simm Engineering Group

"Andrew and the team at Simm Engineering Group provided a high level of expertise and flexibility throughout the procurement process, they continue to go above and beyond with their after-sale support of the project.

"A fantastic local partner. We could not have asked for more."

Robert Mansfield - COO and Co-founder of Deep Branch Biotechnology