BLOOH SOLUTION LTD.

OIL REFINING AND STEEL PRODUCTION

HYDROGEN AS A CLEAN AGENT IN INDUSTRIAL REFINING, METAL PROCESSING, AND CHEMICAL CONVERSION.

www.blooh-solution.com

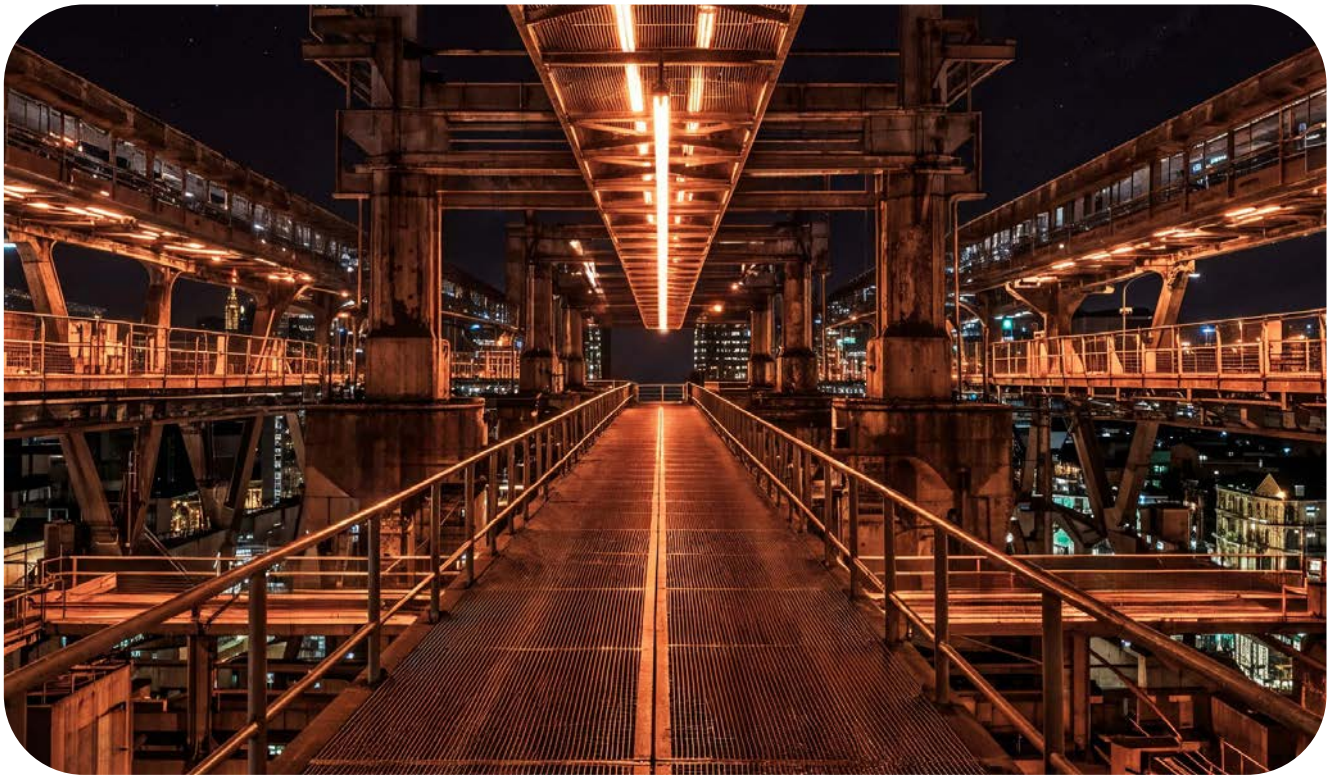
ON-SITE HYDROGEN PRODUCTION

BLOOH Solution Ltd. is a leading provider of sustainable solutions for industrial processes. The company focuses on providing clean, green hydrogen on-site, which can be used in various industries to decarbonize processes and reduce emissions. IIS has developed projects that provide green hydrogen directly on-site for industries such as oil refining and steelmaking, offering a range of products to help industries reduce their carbon emissions and move towards a greener future.

In steelmaking, the use of hydrogen is increasing to reduce emissions. Steelmaking requires a high calorific value, which means that many chemical reactions occur due to high temperatures. These chemical processes typically produce carbon emissions. However, by adding hydrogen, a form of substitute can be created that has the potential to reduce emissions. IIS's hydrogen generator and CCUS system can be used to produce and transport hydrogen, which can fundamentally revolutionize the steel industry.

BLOOH Solution's hydrogen storage system stores green hydrogen safely and efficiently, making it suitable for large-scale applications. The company's solutions can be customized to meet specific customer requirements, and its team of experts provides end-to-end support, from installation and commissioning to maintenance and repair.

BLOOH Solution's goal is to help its customers transition toward a more sustainable future by providing innovative solutions that reduce emissions, increase efficiency, and improve profitability. The company is committed to staying at the forefront of technology and innovation, and it continues to invest in research and development to improve its products and services.



HYDROGEN GENERATOR

The hydrogen generator developed by BLOOH Solution is a modular and scalable system that can produce hydrogen on-site via electrolysis. The generator uses renewable energy sources such as solar or wind to produce green hydrogen. The generator has a capacity of up to 2000 Nm3/hour, making it suitable for large-scale applications in the oil refining and steelmaking industries. The generator is designed to be easy to install and maintain, with a user-friendly interface.

TECHNICAL SPECIFICATIONS

- Electrolysis technology: Proton exchange membrane (PEM) electrolysis
- Operating pressure: Up to 40 bar
- Efficiency: Greater than 85%
- Water consumption rate: Approximately 4-5 Ltrs per Nm3 of hydrogen produced
- Maintenance requirement: Less than 0.5 hrs per day
- Control system: Advanced control system with remote monitoring and control capabilities
- Lifetime cost: Low lifetime cost compared to traditional hydrogen production methods
- Max hydrogen production capacity: 2000 Nm3/h
- Hydrogen purity: Greater than 99.999%
- Power consumption: Less than 3.5 kWh/Nm3 H2
- Operating temperature range: 5°C to 45°C
- Lifetime: Over 20 years
- Safety features: Automatic shutdown systems, hydrogen sensors, and pressure relief valves
- Installation requirements: Clean and dry space with access to water, electricity, and compressed air
- Certifications: CE, CSA, and UL certified

CCUS SYSTEM

The CCUS (Carbon Capture, Utilization, and Storage) system developed by IIS captures carbon emissions from industrial processes such as oil refining and steelmaking and converts them into useful products. The system uses green hydrogen produced on-site to reduce carbon emissions. The captured carbon is then utilized to produce various products such as plastics, fuels, and chemicals, which can be sold to generate revenue.

TECHNICAL SPECIFICATIONS

- Carbon capture efficiency: >90%
- Carbon utilization efficiency: >80%
- Hydrogen purity: >99.999%
- Pressure: up to 40 bar
- Lifetime: >20 years
- Carbon storage capacity: 1-10 million metric tons of CO2 per year
- Energy consumption: Low energy penalty
- Emissions reduction: Expressed as a percentage of baseline emissions
- Scalability: Designed to be scalable
- Cost-effectiveness: Economically viable
- Operating temperature: 50-150 degrees Celsius
- Carbon dioxide purity: >95%
- Hydrogen production capacity: Sufficient to meet demands
- Storage safety: Designed with safety in mind
- Water consumption: Minimized
- System reliability: Reliable with minimal down-time

HYDROGEN STORAGE

The hydrogen storage system developed by BLOOH Solution is designed to store green hydrogen produced on-site for later use in industrial processes. The storage system uses advanced materials such as metal hydrides and carbon nanotubes to store hydrogen safely and efficiently. The system has a capacity of up to 5000 Nm3 and can be integrated with the hydrogen generator and CCUS system for a complete solution.

TECHNICAL SPECIFICATIONS

- Capacity: up to 5000 Nm3
- Pressure: up to 1000 bar
- Efficiency: >95%
- Lifetime: >20 years
- Refill time: compatible with industrial process
- Operating temperature: -40 to 80 degrees Celsius
- Storage safety: designed with safety in mind
- System integration: designed to integrate with other components
- Footprint: compact design
- Maintenance requirements: minimal
- Cost-effectiveness: economically viable

DRIVING INNOVATION FORWARD!

FOR MORE INFORMATION PLEASE CONTACT:

BLOOH Solution Ltd.
1055 Dunsmuir St
Vancouver, BC V7X 1L4

Tel: +1 604 260 6692