

REMOVE THE RISK OF FOAM IN ANAEROBIC DIGESTERS



The **Anaerobic Digestion (AD) and Biogas** sector experiences continuous, destructive challenges from foaming. Rich feedstocks, used to improve biogas output, generate **high levels of foam**. This is a significant issue for operators, as it has been reported that excess foam can actually **reduce gas production by up to 40%**. Additionally, foam can damage gas extraction equipment and block pressure relief valves. This leads to digester over-pressurisation which may rupture the vessel. Costs of this have reportedly exceeded £1million at some sites for downtime, loss of production and repair costs. There will also be major environmental pollution.

The challenge, therefore, is to maintain foam at the optimum production level with correctly-applied chemicals, liquids, or by other control methods - maximising the digestion process whilst reducing any risk. Previous attempts at utilising conventional level monitoring equipment to achieve this have failed; however, the application of Hycontrol's specialised foam control technology has proven highly successful.

PROBLEMS CAUSED BY FOAM IN ANAEROBIC DIGESTION

- ◆ Reported loss of up to 40% of biogas output
- ◆ Damage to gas compressors and other sensitive equipment
- ◆ Blockage of safety valves and pressure relief valves
- ◆ Rupture of digester tanks and domes, leading to:
 - ◆ High repair or replacement costs
 - ◆ Months of downtime with associated loss of earnings
 - ◆ Pollution hazards and cleanup costs
 - ◆ Damage to company and site reputation
 - ◆ Potential revoking of operating permits
- ◆ Increasing insurance costs for the whole industry



FOAM CONTROL TECHNOLOGY

Hycontrol's **foam control technology** offers a practical solution to all the above AD & biogas issues, reducing both risk and costs. Foam can be measured and controlled using the new **SureSense⁺ system** (pictured above) to administer the preferred control method. This keeps digesters **operating at optimum level**, **preventing damage** to both equipment and vessels and **eliminating the risk of pollution**. Additionally, it can **improve efficiency** (and cost-effectiveness) if using anti-foam chemicals, as well as **improving insurance ratings** by demonstrating effective control.



SURESENSE+ KEY FEATURES

- ◆ Specifically designed to detect all types of foam
- ◆ Immunity to fouling and probe coating with unique IMA sensing®
- ◆ Connect up to three foam probes to one controller - reduce costs
- ◆ Isolation valve system allows probe adjustments without gas escape
- ◆ Simple set-up with pre-programmed digester mode
- ◆ ATEX rated, probes pressure resistant to 10 bar, temperature 150°C
- ◆ Directly control pumps or valves, or connect to an external controller
- ◆ Multiple relay outputs for improved control

