

Safety Considerations at Anaerobic Digestion Plants



Anaerobic digestion is a collection of processes which naturally breakdown organic matter to eventually produce biogas - a methane rich gas which is burned to produce both heat and electricity. The methane can also be used as vehicle fuel or injected into the gas grid. The industry is growing fast and is forecast to continue to do so with many farmers adding bio-gas plants alongside their everyday farming activities.

This environmentally-friendly, cost-effective solution to converting waste into renewable energy isn't without its hazards. There are many important health and safety issues to consider and potential risks to mitigate when operating a biogas plant such as explosion, fire, poisoning and surface water leakages.

Operating in a hazardous environment

A by-product of one of the main stages of anaerobic digestion is ammonia. Upon contact with the skin ammonia is corrosive and requires flushing of the area with a large amount of water for at least 15 minutes, at a temperature of between 25-30°C. Emergency safety showers must be installed in this environment within 15 metres of the hazard to provide immediate relief in the event of an accident. The Hughes temperature-controlled emergency safety shower is ideal where ammonia is present as it is able to maintain the water within this temperature range and can also be used to supply heated water to another safety shower in the vicinity.



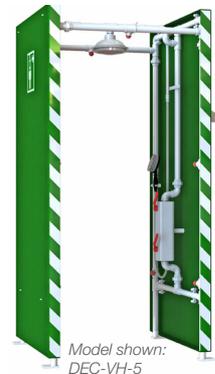
Model shown:
STD-TC-100KS/11K

Biogas produced by anaerobic digestion is extremely corrosive due to its composition of combustible gases. When specifying emergency safety showers for these plants choose a safety

shower with stainless-steel pipework for improved corrosion resistance and durability. In addition, ensure the safety shower is suitable for hazardous areas and is ATEX certified. Hughes products can be configured to meet ATEX and IECEx requirements ensuring they are suitable for use in environments where there is the potential risk of explosions. Our CompEx certified electricians are supported by qualified electrical design engineers providing you with complete peace of mind that our products meet the rigorous safety and electrical standards needed.

Safety Showers to meet all requirements

All the safety showers in the Hughes range are offered with the choice of galvanised mild steel or 316L stainless steel pipework. This includes our freeze-protected range for environments where there is the risk of the water inside the pipes freezing due to external ambient conditions along with our PPE Decontamination range.



Model shown:
DEC-VH-5

The PPE decontamination showers not only provide effective health and safety measures for the individual that are compliant to current legislation, they also preserve and prolong the effective lifetime use of costly personal protective equipment workers may need to wear. Our walk-through two stage decontamination showers feature a detergent inducing venturi feeding an overhead shower and hose brush plus ten shower nozzles for the secondary wash down, particularly effective for

those subjected to the chemicals, oils and waste prevalent on anaerobic digestion sites.

We're here to help

As with all areas of industry, health and safety of the workforce should be taken seriously. Talk to Hughes today to ensure you have everything in place to protect the safety of your workforce.

50 YEAR ANNIVERSARY 2018

HUGHES



HUGHES-SAFETY.COM

a Justrite® Group Company

www.hughes-safety.com