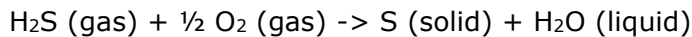


Biogasclean's biogas desulfurization systems

Process Description - MBR

After pre-cooling and air injection the raw biogas with H₂S is bubbled through one or more MBR process tanks with liquid containing the moving MBR media by means of a compressor. The reaction is as follows:



The reaction in a biotrickling filter is inserted for reference below:



As seen from the two reactions oxygen requirements in the MBR process is only 25% compared to a biotrickling filter. This results in lower dilution of the heating value of the clean gas, which is especially important for vinasse biogas from ethanol production on sugar cane molasses which has a low CH₄ content.

Another important difference is that the H₂S is transformed to elemental sulfur instead of sulfate. The elemental sulfur will be dispersed and float in the liquid and be discharged from the MBR process tank. If required, the elemental sulfur may be removed from the effluent by simple sedimentation or by means of hydro cyclones or centrifuges.