

BIOTEC H₂S FILTERS

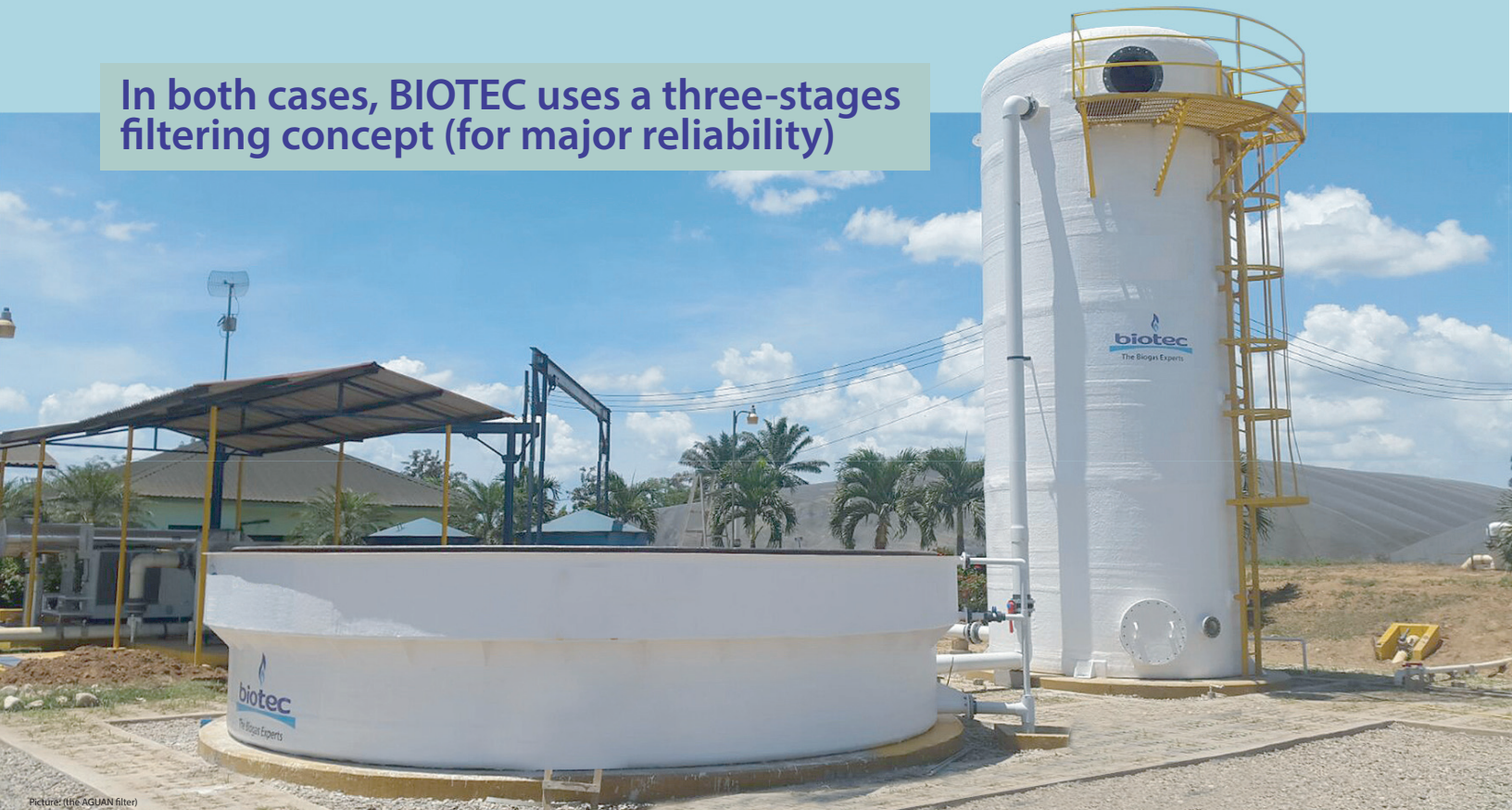
To remove H₂S from biogas, BIOTEC uses several kinds of filters in function of the requirements: H₂S content, max. H₂S acceptable (average / peak), biogas use.

Among all the technologies available on the market, BIOTEC privileges biological H₂S removal, which have low inputs and by the way low O&M costs. BIOTEC develops two of them, in some cases complemented by a physical H₂S polishing.

Technology 1: 100% BIOLOGICAL: for low H₂S content (< 2.000 ppm)

Technology 2: BIO-PHYSICAL: for medium and high H₂S content (> 2.000 ppm up to 15.000 ppm). Also used when air injection is not welcomed (example: before CO₂ membrane filtration)

In both cases, BIOTEC uses a three-stages filtering concept (for major reliability)



TECHNOLOGY 1: 100% BIOLOGICAL

- For H₂S content < 2.000 ppm
- Well suited for lagoon-based biodigesters
- Well suited for low organic load biodigesters
- Includes air injection in the biogas
- Produces elemental sulfur (to collect)
- Average daily H₂S removal efficiency: 95%

TECHNOLOGY 2: BIO-PHYSICAL

- For H₂S content > 2.000 ppm
- Well suited for tank-based biodigesters
- Well suited for high load biodigesters
- Does not include air injection in the gas
- Generates sulphate (washed with effluent)
- Average daily H₂S removal efficiency: 97%

PRINCIPLE:

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| 1. Air injection and H ₂ S removal in the biodigester | 1. Water scrubber (physical H ₂ S removal) |
| 2. Wet biological filter | 2. Aeration tank (sulfide → sulphate) |
| 3. Dry biological filter (for polishing and drying) | 3. Dry biological filter (polishing & drying) |

The biogas experts

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