



Continuously stirred tank reactor in stainless steel during construction.

Huge potential for biogas in West India

According to a recent report by German Biomass Research Institute DBFZ, all the preconditions required to develop a biogas industry can already be found in West India. For some inside information Stainless Steel World contacted Erich Stallkamp ESTA GmbH, one of the world's leading companies for biogas components.

By David Sear

The basic functioning of a biogas plant can be simply described. Take organic waste, such as animal manure, vegetable waste and other energetic material e.g. corn, put it inside a closed container and allow it to undergo anaerobic digestion. The digestion process uses microbes to break down such organic matter, producing methane (biogas). This gas is captured and can subsequently be used just like natural gas to heat homes, to produce electricity, etc. Almost any matter that remains following anaerobic digestion can be converted into biofertiliser to be spread directly onto fields. No wonder then that biogas plants have become a regular feature of the

rural landscape in many countries in Europe, where they are used to convert waste from the farming sectors, food processing industries and corn into valuable energy. And now Europe and especially Germany can take over a leading role in promoting the further use of biogas technology worldwide. This was the clear message that comes from Stefan Wichelmann, Business Development Manager. "According to the DBFZ India has strong targets for renewable power sources, such as 10,000 MW by 2022 made from biopower. The state-specific targets show that Uttar Pradesh (North India) and Maharashtra (West India) will take over a leading role in biopower.

They want to generate 3,499 MW (Uttar Pradesh) and 2,469 MW (Maharashtra) from biogas and gasification in their states," comments Mr. Wichelmann. Aware of the high potential in India and seeking to build on its existing track-record in the country, Stallkamp has found a competent partner in Pune (Maharashtra). Consultant Mr. Aniruddha Joshi has many years of experience in the field of mixers and pumps. This fits very well with the product portfolio of Stallkamp. "We look forward to realize projects with Aniruddha Joshi and his team in India – whether there are biogas plants, wastewater projects or agricultural equipment", notes Benjamin Budde, Head of Sales.



Stainless steel mixer inside slurry tank made of stainless steel

Aniruddha Joshi has more than 17 years of experience in the field of wastewater in India. With an in-house service station for maintenance and repair works, he offers additional service to the on-site service. Mr. Joshi and his team are delighted about the new cooperation and absolutely motivated

to consult customers and all those interested.

Stainless steel– a key material

As and when orders are received from India the necessary items will be made in Stallkamp's manufacturing facility in Germany and shipped to the work site. There all components will be installed by Mr. Joshi and his team. Larger items such as the tanks are provided in kit form for easy transportation and assembly.

As a fully-fledged manufacturer, Stallkamp takes pride in being able to produce everything in house, including the tanks, pumps, mixers and agitators. "We have the equipment and trained staff to perform all necessary processes such as edging, lasering, pressing, stamping, milling, welding, cutting, machining, etc. We even produce the shafts and gears in our own production facilities," notes Mr. Budde.

As might be expected, stainless steel is a key material for Stallkamp. The company's brochures reveal for example that grade 1.4301 stainless steel is used for the motor housings and slide bearings in submersible

motor pumps whilst high-pressure centrifugal pumps utilise Ni-Resist stainless steel for the impellor and the housing (in the latter application the stainless steel is additionally coated with 2-component plastic lacquer).

Separators and agitators too make good use of stainless steel, with grade 1.4404 specified for agitator motor housings and grade 1.4301 selected for components such as sliding guides, bulkhead plates and circulation frames.

However, it is the tanks that consume the largest quantity of stainless steel. Giving an example, Mr. Budde notes that a continuous stirred tank reactor that is used in the biogas sector can easily weigh up to 40 tons and that is more or less all stainless steel. "It is always worth opting for stainless steel. Secondary costs for maintenance and repair are normally reduced to a minimum. We can produce tanks with extremely sturdy walls thanks to the use of special high-strength stainless steel and extra firm edge profiles. This means that the lifespan of Stallkamp stainless steel tanks is pretty much unrivalled."