Optimisation of your agitator technology for more efficiency and system stability

Agitator technology that is not optimally configured and outdated represents a significant potential for improving your plant. With our unique breadth of product range (submersible agitators, rod agitators, vertical agitators and special designs) and more than 25 years of agitator experience, streisal is able to satisfy the particular requirement optimally.

Sample case:
Replacement of existing submersible agitators by streisal Biobull®

System profile

Operator	Harke Niemann GmbH & Co. KG Kragen 1 29348 Scharnhorst
Commissioning	2009
Input materials	Chicken dung, cattle manure, maize silage
Technical data	Mixing pit / hydrolysis: - Digester: 1 x Ø 23 x 6 m, usable volume 2,200 m³ Secondary digester: - Final storage: - 765 kW electrical
Special features	None

Starting situation

Agitator original equipment	· 4 x 13 kW Flygt submersible agitators type 4670 (Propeller diameter 766 mm, 365 rpm, 44 A)
Previous conversions	· Replacement by 3 x 15 kW KSB Amaprop 1000 (Propeller diameter 1000 mm, 192 rpm, approx. 31 A)
Known problems	· Deposits in the tank and, as a result, difficulties with feeding. Substrate too viscous (10 -11% dry matter content), therefore insufficient homogenisation of the tank contents or no satisfactory agitating result · High wear and tear · Downtimes

BIOGAS Effizienz Info

Optimisation concept

Replacement of existing agitators — In March 2014, 3 x 15 kW submersible mixers were replaced by 2 x 11 kW streisal Biobull® agitators

Exchange of agitator –

Installation of additional agitators –

Slow-running large blade agitators are designed for difficult agitating and mixing tasks and are suitable for a wide variety of substrates, even with fibrous constituents. Due to their large diameter and very slow speed, the propellers generate approximately three times the circulating power of a fast running submersible motor agitator with significantly lower power consumption.
The drives are controlled via frequency inverters with parameterised safety software.

Results

Higher process stability
- Problem-free feeding, good gas yield
- Smooth system operation, i.e. no malfunctions or downtimes

Better agitation function
- Complete homogenisation by doubling the circulation rate

Lower operating costs (electricity saving))
- Massive reduction in electricity consumption
- Installed capacity reduced by 36%
- Installed current consumption reduced by 46%
- Operator confirms annual savings of between Euro 16.800.- and 28.800.- (calculated at 0,17 Euro per kWh)

Less wear
- Not quantified, but no wear and tear on the large blade propellers (very low peripheral speed)
- Non-contact shaft seal

Advantages for maintenance and servicing
- Important wearing parts are mounted externally and are therefore easy to access for maintenance and servicing.
- No need to open the tank roof

CONTACT: STREISAL GMBH PETTERMANDSTRASSE 2 D-88239 WANGEN IM ALLGÄU
TEL +49(0)7522-707965-0 FAX +49(0)7522-80450 WWW.STREISAL.DE INFO@STREISAL.DE