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INCREASED EFFICIENCY ON BIOGAS PLANTS AND WWTP THROUGH ULTRASOUND

MORE AS A PARTNER - A company with history

Weber Entec GmbH & Co. KG is a subsidiary of Weber Ultrasonics AG, one of the world's leading manufacturers of ultrasound components and ultrasonic welding equipment.

Weber Entec concentrates on systems engineering and applications using ultrasound in the field of environmental engineering, especially ultrasonic treatment of biogenic materials, known as disintegration. Because of its broad range of services, the company is a one-stop source for manufacturing, plant construction, sales, system analysis and process optimisation.

Over many years of collaboration with the Fraunhofer Institute, IKTS division, Weber Ultrasonics has developed a sewage sludge disintegration process which is superior in crucial technical respects to currently available processes, and which can therefore be implemented universally and above all more efficiently in terms of costs and energy. The approach of the scientists of the Fraunhofer Institute, proven over many years of basic research, in combination with the extensive long-term industrial experience of Weber Ultrasonics AG, finally resulted in a process which is now available as a market-ready industrial product, in the form of the DesiUS.

INNOVATIVE TECHNOLOGY BY WEBER ENTEC

The term "DesiUS" stands for "disintegration ultrasound system". The disintegration process which forms the basis of DesiUS was developed by Weber Ultrasonics in collaboration with the Fraunhofer Institute, and was optimised by Weber Entec through the use of the BioPush reactor.

DesiUS (Disintegration Ultrasound System) represents energy-efficient and process-robust cell opening technology combined with exceptionally high efficiency. The robust and completely maintenance-free construction of the BioPush reactor allows a simple and uncomplicated structure. The ultrasonic reactors of the turnkey constructed plant are charged via a screw pump. The substrate is routed through the sound field at a specific speed in such a manner that the specific energy input required for treating the substrate is ideally achieved. A macerator protects the machine from foreign objects and provides coarse homogenization upstream, in order to achieve optimal coupling of the ultrasound. A PLC-supported control system enables robust and trouble-free operation. In addition, the machine is equipped with sensors that monitor temperature, pressure and volumetric flow.

TECHNICAL ADVANTAGES

- Very high energy efficiency – 50 % saving compared to other disintegration systems
- Extremely low-maintenance plant technology
- High degree of operational reliability
- Long standing times
- Can be ideally adapted to the respective requirements
- Lower space requirement thanks to compact design, simple plug & play installation
- Quick pay back