

Efficient agitation technology

for biogas plants, wastewater treatment
and industrial process engineering

streisal GmbH

the company



Products and services



Innovative technology and many years of experience

streisal GmbH was founded in 1988 as a manufacturer of submersible motors. Over the course of the years, we have developed into an internationally active, medium-sized full-range provider of agitators and mixing systems for all kinds of applications, thanks to a large number of technical innovations:

- **Biogas plants**
- **Waste water treatment**
- **Industrial process technology**

Our research and development work focuses on energy efficiency, technical performance and the reliability of our products. For this purpose, streisal operates a fluid mechanics laboratory featuring the latest measuring technology and model systems, as well as a large-scale test tank. In this way, we can always offer our customers the best and most efficient solutions, as well as providing high-quality support during planning, configuration and selection of the correct agitator technology.

International explosion protection approvals

streisal GmbH has been a certified manufacturer of explosion-proof agitators and agitator drives for more than 30 years. Most of our agitator types can be produced and supplied for operation in potentially explosive atmospheres of zones 1 and 2 according to ATEX Directive 2014/34/EU (formerly Directive 94/9/EC), IECEx and CSA/UL.



streisal's extensive delivery range extends from submersible motors, a modular system of horizontal submersible agitators in a very wide range of versions to vertical agitators and special designs that provide the features required to solve your individual problems.

With our many years of experience and insights gained from innumerable mixing tests, we are capable of selecting the right product for the particular individual case from this wide variety of options every time.

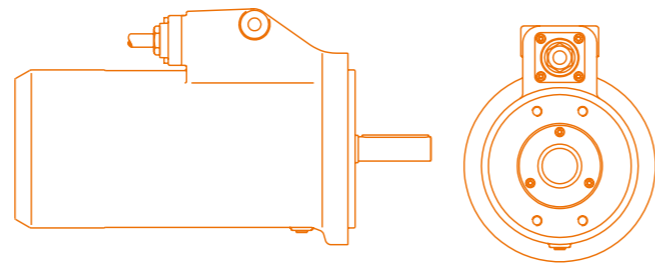
Active support and expert project handling, professional installations and startups, proficient repairs as well as simple and economical maintenance of our products are further reasons why many operating companies have chosen to work together with streisal. Use our expertise in optimising your system. Our employees will be happy to work out individual concepts for you.



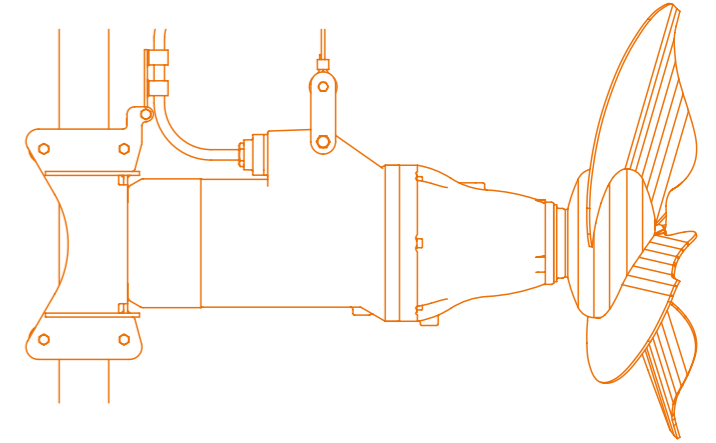
All products and information:
www.streisal.de/en/

Submersible motors

The TSRM series of high-efficiency submersible motors is available in efficiency classes IE 2, IE 3 and, in some cases, even in IE 4. Fully encapsulated in an indestructible grey cast-iron housing, the motors are also suitable for the most adverse environmental conditions, and can be supplied for direct attachment to the drive or as a complete unit according to customer requirements. The shaft ends can be adapted to accommodate the drive elements such as pump or drive gears.



TSR/TSRL



Submersible agitators

HIGH-PERFORMANCE, RELIABLE, ENERGY-EFFICIENT

For more than 30 years, streisal GmbH has been working on the use of submersible agitators in process technology applications. The technical performance, reliability and energy efficiency of our agitators has always been at the centre of our thinking and actions. The standard equipment of streisal submersible motor agitators includes the mechanical seal in highly wear-resistant silicon carbide that is protected against corrosion in a stainless steel holder, as well as temperature monitoring in the motor winding and a high-volume oil chamber with seal monitoring.

DESIGN IN THE MODULAR SYSTEM

A wide range of individual components (submersible motors, gearboxes, propellers, monitoring devices and accessories) allows an appropriate submersible agitator to be configured for any application. This increases the efficiency, ensures a long service life of the agitator and reduces energy costs.



Energy-saving TSR submersible agitators

streisal is setting new benchmarks in performance, thrust and operational safety with this series of medium-speed submersible motor agitators. The robust TSR agitators are designed to be an efficient solution for a wide range of technical agitating tasks.



APPLICATIONS

It is mainly used in biogas production, municipal and industrial wastewater treatment, industrial process engineering and agriculture. In addition to avoiding deposits and floating layers, the devices can also be used for a wide range of agitating and mixing tasks.

TECHNICAL PROPERTIES

Power	1.5 to 18.5 kW
Mains frequency	50 or 60 Hz
Axial thrust	up to 4.920 N
Circulating rate acc. to ISO 21630	up to 7.200 m ³ /h
Propeller diameter	up to 1.290 mm
Coolant/medium temperature	max. 60 °C
Mechanical seal	pairing of SiC/SiC
Submersion depth	max. 20 m

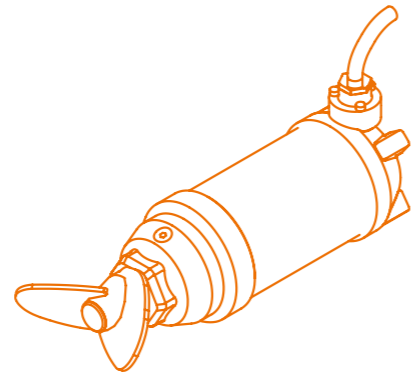
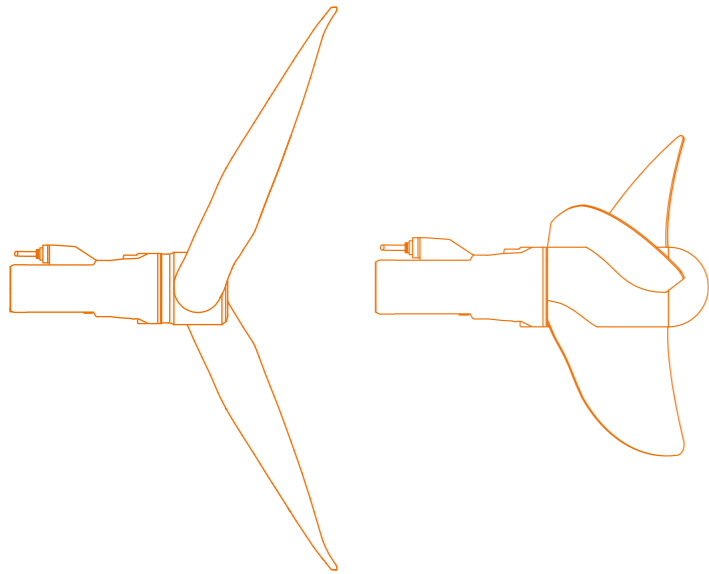
TSRL hybrid submersible agitators

The TSRL agitator is the happy medium between the slow-running large-blade submersible agitators of the ATP/BTP type and the medium fast-running agitators of the TSR series. As a hybrid agitator, it is perfectly suited for mixing and flow generation in biogas tanks with relatively high dry matter contents and substrate temperatures up to 60 °C.



SPECIAL FEATURES

- High thrust values with low power consumption
- Energy-efficient drives (IE2)
- On request, the motors are also available in efficiency classes IE3 and IE4
- Unique, patented sealing system
- Easily replaceable wearing ring



ATP/BTP

Low-speed Submersible agitators ATP/BTP

Slow-running streisal submersible agitators of the ATP/BTP type enable large quantities of fluid to be circulated gently. With large diameters and low speeds, these agitators generate maximum thrust (i.e. a strong, optimally effective flow) with the smallest possible use of energy or electricity. They are also characterized by their robust construction.

APPLICATIONS

By combining different motors, gearboxes and propeller types/sizes, it is possible to offer agitators with the appropriate performance for a wide range of applications: flow generation, circulating, suspension of solids such as in water treatment, process technology, etc.

TECHNICAL PROPERTIES

Power	1.5 to 11 kW
Mains frequency	50 or 60 Hz
Axial thrust	up to 4.000 N
Circulating rate acc. to ISO 21630	up to 10.829 m ³ /h
Propeller diameter	up to 2.650 mm
Coolant/medium temperature	max. 60 °C
Mechanical seal	pairing of SiC/SiC
Submersion depth	max. 20 m



TRV

Compact submersible agitators with direct drive TRV

Universally applicable submersible motor agitator, which opens up completely new areas of application – even for adhesive, highly aggressive and abrasive media – with its extremely compact design and a housing made of high-alloy stainless steel. When operated with a frequency inverter, variable speeds and propeller diameters allow for flexible adaptation to the mix. Seal elastomers are available either as fluorinated rubber (Viton) or as perfluorelastomers (Kalrez, Praflur).



Vertical agitators

SOLUTIONS TO MEET REQUIREMENTS

Energy-efficient production is increasingly becoming a decisive success factor in industry. With the product range of agitators that are installed vertically or at an inclined angle, streisal offers an extensive range of standard components with high levels of efficiency. On this basis, we assemble solutions to meet the requirements of the particular agitating task and for achieving maximum efficiency on your behalf.

Installation is possible with variants with or without counter-bearings, as well as various support for wall or ceiling mountings.

VARIABLE-SPEED, ENERGY-EFFICIENT DRIVES

The drives are activated preferably by frequency inverters with safety software set in the parameters (torque limitation, coupling breakage detection) which can be optionally equipped with the „streisal SafeGuard“ automatic torque monitoring and control system and the „streisal SafeBox“ vibration monitor.

RELIABILITY

streisal vertical and inclined agitators are characterised by great robustness and long service life. Many of the components used have proved reliable in practical application for more than 30 years.

Biobull®

The energy-saving Biobull® fermenter agitator

With the agitator shaft installed at an inclined angle and two propellers mounted at different heights, the agitators generate significant hydraulic performance with horizontal and vertical flow components. This results in a cross-layer homogenization of the entire tank content and significantly reduces floating layers and sedimentation.

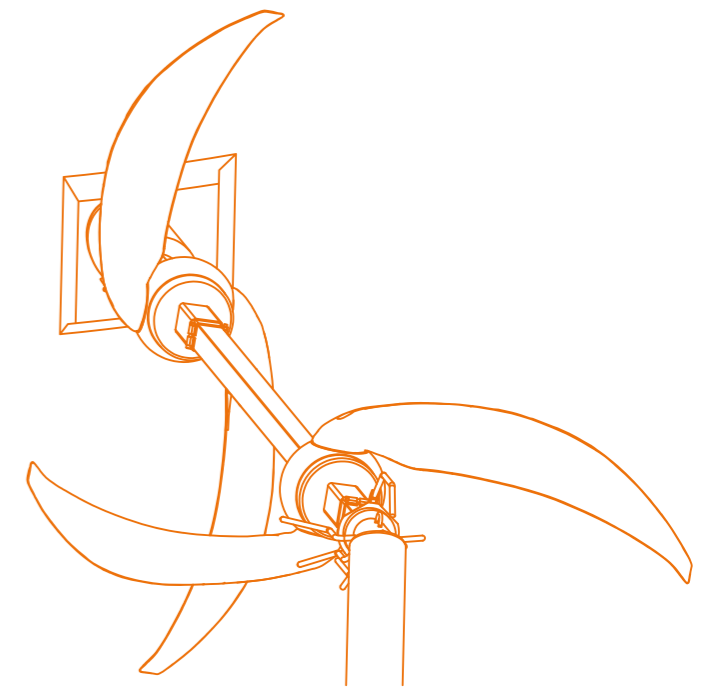
APPLICATIONS

Slow-running large-propeller agitators of the Biobull® type enable large quantities of fluid to be circulated in tanks with largely constant fill levels. They are used above all in biogas generation and in other applications with difficult substrates (fibrous constituents, maximum dry matter contents, etc.). The maximum medium temperature is 60 °C.

By means of an external agitator column, the agitator can also be used in steel tanks of different shapes and sizes: The forces and moments are not transferred to the tank wall, but into the foundation.

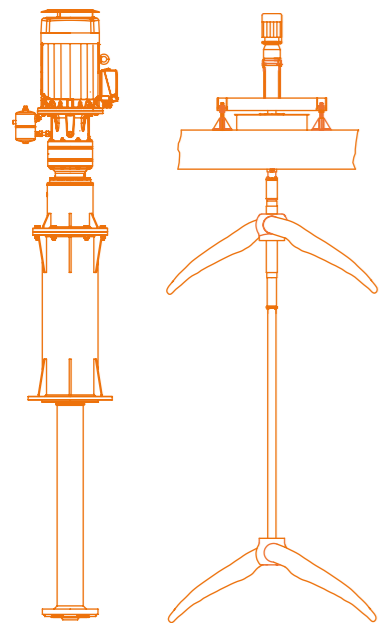
TECHNICAL PROPERTIES

Power	1 to 15 kW
Mains frequency	50 or 60 Hz
Circulating rate acc. to ISO 21630	up to 22.300 m ³ /h
Propeller diameter	up to 2.650 mm
Axial thrust	up to 7.000 N



SPECIAL FEATURES

- 3D-profiled propeller geometry optimized in the flow laboratory
- Maximum thrust with very low power consumption
- Wear-free shaft seal system
- Great ease of servicing due to external drive
- On request, the motors are also available in efficiency class IE 4.



BIOS

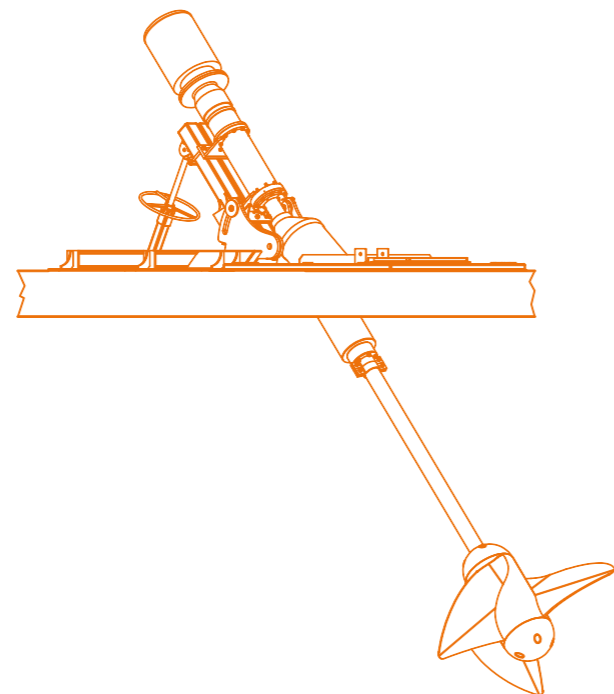
Vertical Biobull BIOS

APPLICATIONS

Slow-running large-propeller agitators of the Vertical Biobull BIOS type enable large quantities of fluid to be circulated in tanks with largely constant filling levels. They are used above all in biogas generation, in digestion towers at municipal or industrial sewage treatment plants and in other applications with difficult substrates (fibrous constituents, maximum dry matter contents, etc.). The maximum medium temperature is 60 °C.

TECHNICAL PROPERTIES

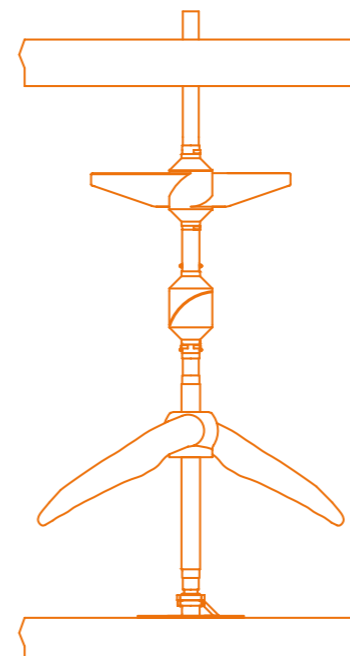
Power	1 to 15 kW
Mains frequency	50 or 60 Hz
Circulating rate acc. to ISO 21630	up to 22.300 m ³ /h
Propeller diameter	up to 2.650 mm
Axial thrust	up to 7.000 N



Biosubstrator®

The height-adjustable Biosubstrator® rod agitator

With large propeller diameters and slow, frequency-controlled speeds, the rod agitators of the Biosubstrator® type generate a lot of thrust with an excellent efficiency level. They are used above all in biogas generation and applications with difficult substrates (abrasive media, fibrous components, high dry matter contents, etc.).



Maischebull® Hydrobull®

High-performance agitating systems: Maischebull®/Hydrobull®

With our extensive range of different impellers, drive powers and installation options, we can supply customised solutions to meet your particular agitation needs. One or more agitators are used depending on the tank shape, substrate properties and method of filling.

APPLICATIONS

The powerful, large propeller agitators of the Maischebull®/Hydrobull® type make it possible to mix or stir in and homogenise large quantities of solids in pre-pits, mashing pits and hydrolysis tanks. Especially with difficult substrates containing fibrous components such as solid manure or grass, this reliable and low-wear agitating system has proven itself effective many times over in combination with direct filling from wheeled loader buckets through a loading chute. References are available for agitation rates of up to 40 tonnes silage and solid manure per hour.



TECHNICAL PROPERTIES

Power	11 to 30 kW
Mains frequency	50 or 60 Hz
Circulating rate acc. to ISO 21630	up to 22.300 m ³ /h
Propeller diameter	up to 2.650 mm
Axial thrust	up to 7.000 N



Service



Good service is as important as the technology itself when it comes to economical operation of your agitator. Whether installation and startup, proficient maintenance and servicing, fastest possible delivery of spare parts, repairs, training or expert advice – our qualified employees are at your side as reliable partners with the appropriate service offerings. streisal genuine spare parts offer convincingly high quality, while the delivery times are short thanks to our extensively equipped warehouse. We offer maintenance measures and other services at cost, or in the form of maintenance contracts.

Benefit from our many years of experience. Why not give us a call? We are looking forward to hearing from you.

Accessories



Universal installation fittings and switchgear/controlgear are available for installation. streisal manufactures supports, fastening brackets, guide rails, flexible lowering devices, fixed stand units, and many other accessories according to its own plans in-house. Sturdy constructions and highly resistant materials guarantee a long service life and durability. This means our agitators can be used without difficulty in all kinds of tank geometries. Moreover, it is possible to adapt the design of the installation accessories to special installation situations.

**Take advantage of our broad
experience and give us a call.**

We look forward to hearing from you.



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