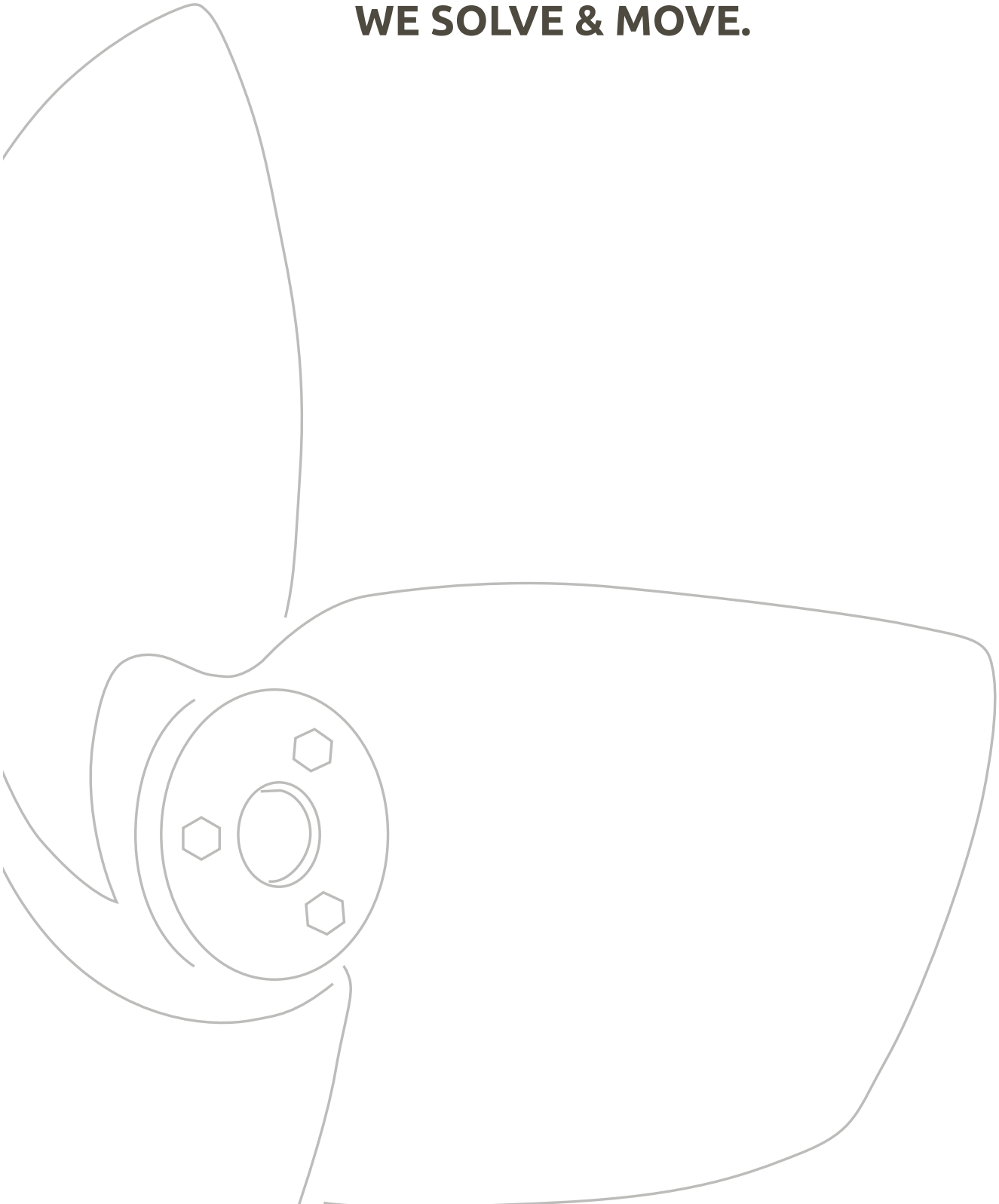
WE SOLVE & MOVE.



Dear customers, partners and friends of SUMA Rührtechnik,

Our company has been specialized in the production of mixers since 1957. With our range of pumps we offer a perfectly matched system of agitator and pump

We develop, manufacture and optimize our products to the benefit of our customers and to attain a healthy environment. We focus our expertise and decades of experience on the quality of our mixing technology. Exactly this makes us experts.

We support you with individual solutions and we point out new options. Our credo is: Excellent quality, longevity of our mixers coupled with courteous service. You can demand this and rely on it!

Specialization and expertise serve to pursue our primary goal of global success for you and us. Customers from Europe and abroad rely on the sophisticated technology of SUMA.

Along with the economic orientation, considering ecological criteria is vital to our enterprise. Safeguarding people and the environment is considered in our entire product cycle. Providing a comfortable and healthy production environment along with the considerate handling of resources by using environmentally friendly production methods is as natural to us as the safety and feasibility of our products. The guiding principle of our company is the preservation of humans, animals and the environment.

Sincerely

Eva Thürwächter
Authorized Signatory

Paul Thürwächter
Director

MILESTONES

1957

Officially registered as ‚Workshop for the development, manufacturing and repair of electrical and mechanical equipment, machinery and devices' by Gerhard Thürwächter. Founder Gerhard Thürwächter invents the first electric mixer.

1970

Gerhard Thürwächter develops the first tractor mixer Giantmix.

1986

Production of the first submersible mixer.

1991

Engineer Paul Thürwächter, son of the company founder Gerhard Thürwächter, joins the company.

1992

First mixers for biogas plants are developed.

1993

Paul Thürwächter is appointed as Director.

2000

Expansion into the USA by establishing the subsidiary SUMA America Inc.

2010

Expansion into Brazil with the subsidiary BRASUMA.

Present

As leading inventor and developer of electrical mixers, SUMA has grown into a global innovation and quality-conscious company with the sales of over 94,000 mixers in 64 countries.

2020

Inauguration of the new production and office building.

SUMA supplements its agitator portfolio with a range of pumps.

>> OUR VISION

We develop the **most convincing mixer** of the 21st century for **the production of renewable energy** from organic material **without straining our environment.**

>> OUR MISSION

We provide **reliability and trust** by offering **solutions tailored to your requirements.**

We develop, manufacture and optimize our products **to the benefit of our customers.**

Our vision is the unconditional commitment to protecting the environment which is entrenched in the fundamental orientation of the company. SUMA products are used where organic waste is re-processed: in the production of biogas, waste-water processing and sewage treatment or when manure is used for fertilizing fields.

SUMA acts with sustainability: Employees can recharge their e-cars - the electricity is produced by our own photovoltaic system. Electricity from renewable energy turns e-mobility into a coherent concept. E-mobility is one part of our internal ecological measures.

>> BRIEF INFORMATION

- 50 electric company vehicles in operation at SUMA
- Photovoltaic system 500 kWp for electric power for our site and e-cars
- As far as possible our packaging material of renewable resources
- Disposable items, like towels, beverage containers are not being used

>> Green energy for e-mobility from our own roof <<

Free beverages for our employees and visitors are only available at water dispensers. As far as possible, our packaging material is made from renewable resources. The use of synthetic material has been reduced to a minimum. Disposable items, like paper towels have been replaced by normal cloth towels or hand driers.

We support with monetary donations environmental projects like the reforestation initiative "Plant for the planet“. Another contribution is the colorful sea of flowers on our company site. Pastures of wildflowers are not just pretty sights, but also provide a habitat for the protection of plants and insects. We impressively demonstrate that social engagement and economic success do not have to be at odds with each other.

WE ARE SUMA

We are an independent family-operated company which places emphasis on values such as honesty, openness and responsibility as the basis of our global success.

Our team consist of +100 competent employees, who work solution-oriented and with great gusto for the success of our customers.

Job training is of prime significance to us. We offer premium conditions to young talents for a successful entry into their careers. Because of a retention rate of 90 % we are considered as being one of leading training workplaces in our region.

Thürwächter family

Our employees at the dragon boat race

The SUMA team consists of one hundred dedicated employees

MEMBERSHIPS & CERTIFICATES

We are TÜV-certified and fulfil all relevant guidelines and norms applying to quality management (ISO 9001:2015) and ATEX according to Guideline 2014/34/EU. This ensures excellent performance and optimized processes.

Being a member in several professional associations keeps us well connected and in tune with current developments while also enabling us to shape events and represent local and professional concerns.

Fachverband BIOGAS

Mitglied im UmweltCluster Bayern

FnBB

AT HOME IN THE ALLGÄU AND GLOBALLY AVAILABLE

During its 60-year history, the company has sold more than 94,000 mixers. Located in Sulzberg, Allgäu, our worldwide export rate runs up to 65 %. Our mixers are used in 64 countries. Whether you are located in Europe, Asia, Africa, the Americas or Oceania, due to our decades of experience we are able to deliver the appropriate mixer suitable to local conditions while adhering to the according guidelines. Our subsidiaries BRASUMA (Brazil) and SUMA America Inc., along with domestic and foreign network of partners, are always close to you and at your disposal.

WE SOLVE & MOVE.

AGITER POUR SOLUTIONNER.

我们不仅搅拌 – 我们超越搅拌

WIR LÖSEN & BEWEGEN.

AGITAMOS & RESOLVEMOS.

SOLUCIONAMOS Y MOVEMOS.

ÇÖZÜYORUZ & HAREKETE GEÇIRIYORUZ.

Since its founding in 1957 the value creation has almost exclusively taken place at our site. Most components are constructed at our premises with the aid of state-of-the-art equipment and by our highly skilled workers. Be it milling, metal works or the production of tools and fixtures for component manufacturing, our ideal manufacturing depth impacts the quality during the entire process chain, enabling us to carry out adjustments with ease any time and to execute customization cost-effectively.

Thanks to decades of experience in producing mixers, we feel ready to face the demands of the future.

DEVELOPMENT

Driven by the will to construct the best possible mixer, our experienced team of engineers, technicians and designers work on the implementation of new ideas and on the innovation and optimization of available technology day by day.

Before launching a new product on the market, it undergoes a series of thorough tests. We develop and test all products using empirical data collected by ourselves using CFD simulation and with tests in our test basin at our headquarters.

By using CFD simulation we are in the position to simulate the flow characteristics of different types of containers and lagoons.

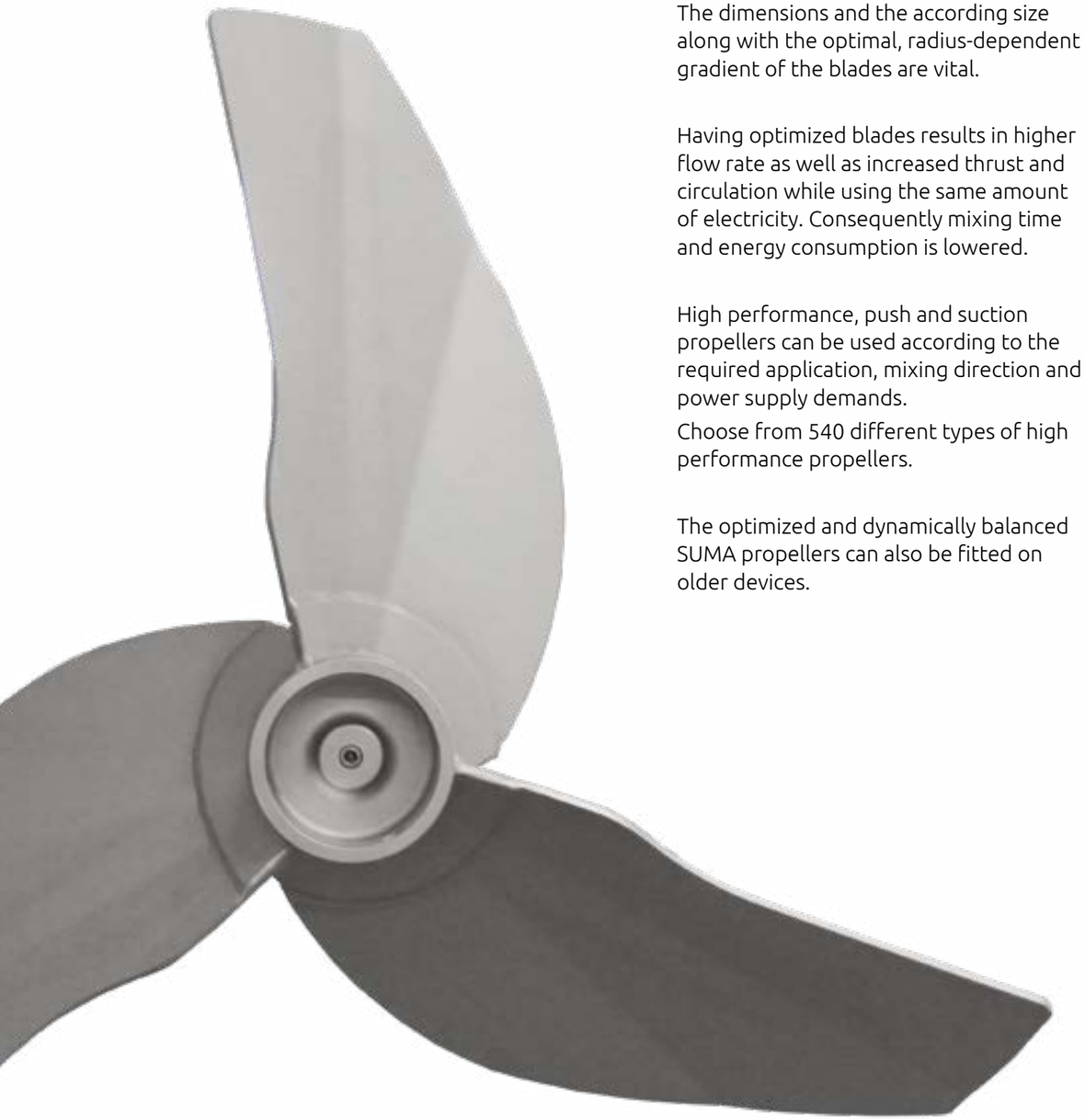
Prototypes undergo numerous realistic tests in our test basin. Three hundred measurements regarding energy consumption, thrust, flow velocity, etc. have been obtained in hundreds of trials.

The application of theoretical and practical test methods enables us to use the empirically collected data to improve our products in order to produce the technically most sophisticated solution.

The SUMA Service Team

By purchasing a SUMA mixer, you have chosen maximum quality available.
Be it for a new installation, modification or component exchange - our team of experienced service specialist is at your side 24 hours a day, 365 days a year.

THE RIGHT PROPELLER FOR EACH SPECIFIC PURPOSE IN 540 TYPES



Our propellers make the difference

The performance of a mixer depends on the type of propeller.

The dimensions and the according size along with the optimal, radius-dependent gradient of the blades are vital.

Having optimized blades results in higher flow rate as well as increased thrust and circulation while using the same amount of electricity. Consequently mixing time and energy consumption is lowered.

High performance, push and suction propellers can be used according to the required application, mixing direction and power supply demands.

Choose from 540 different types of high performance propellers.

The optimized and dynamically balanced SUMA propellers can also be fitted on older devices.

TYPES

Propeller L

Propeller LD

Push Propeller D

Pull Propeller S

High performance Propeller HD+

Propeller LT

Propeller XT

MATERIALS

Hardened

Stainless steel

Polymer coated

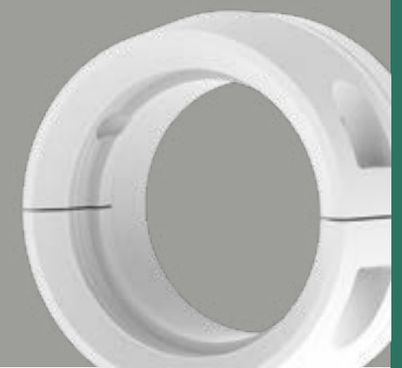
Spray coated

EFFECTIVE PROTECTION FROM ABRASION SUMA POM PROTECTION

Additional protection
After an intensive testing phase SUMA can now offer POM protection for additional safety from long-fibred impurities. This protection prevents damages caused by abrasion to the blade socket.

The Material
We have been using polyoxymethylene (POM) in the biogas sector for many years. The material has been successfully used for the castors of the OPTIMIX submersible mixers. POM has excellent glide properties and high lifespan, also when used in aggressive substrates.

Easily mounted
The protective clamp is used for many SUMA shaft-agitators and submersible mixers. It can also be installed in already running systems. The POM can be mounted in a few and simple work steps. The pictured instruction is included in the delivery.



MIXERS & PUMPS FOR BIOGAS

Our products are responsible for creating ideal conditions in biogas containers in order to achieve the highest possible yield. An increased growth of methane bacteria takes place at temperatures between 37 – 42 °C.

By using our shaft agitators or submersible mixers you can reach the ideal temperature distribution, which results in a higher gas yield and warrants high process stability.

Additionally, stirring with SUMA mixers ensures fermentation and an increased distribution of nutrients and vitamins for supplying the micro-organisms. When having pH values between 4.5 and 8.5, you can use our products in your tanks.

Depending on the choice of your mixer, the stirring of substrates with a dry matter content of up to 16 % can be handled.

PRESSURA pumps complement the comprehensive range for biogas.

MIXERS & PUMPS FOR BIOGAS

Our biogas mixers are specially constructed for the use in fermenters, secondary fermenters, repositories and preliminary dumps. With our range of pumps we offer a perfectly matched system of agitator and pump for stirring, mixing, homogenising, pumping and filling from one hand. We ensure ideal temperature and nutrient distribution when using our products. See for yourself.

GIANTMIX FR light

Power: 4.0 / 7.5 kW
Tube length: 1.0 / 1.5 m
Propeller-Ø: 520 - 700 mm

GIANTMIX FR SP

Power: 7.5 - 18.5 kW
Tube length: 3.0 / 4.0 m
Propeller-Ø: 620 - 850 mm

GIANTMIX FR 30°

Power: 7.5 - 18.5 kW
Tube length: 3.0 / 4.0 m
Propeller-Ø: 620 - 850 mm

GIANTMIX FR stationary

Power: 11.0 - 18.5 kW
Tube length: 2.5 / 3.0 m
Propeller-Ø: 580 - 660 mm

GIANTMIX FT

Power: 7.5 - 22.0 kW
Tube length: 4.0 - 6.0 m
Propeller-Ø: 620 - 880 mm

GIANTMIX FTX

Power: 15.0 kW
Tube length: 4.0 - 6.0 m
Propeller-Ø: 1,200 mm

GIANTMIX AMX

Power: 15.0 - 22.0 kW
Tube length: 4.0 - 6.0 m
Propeller-Ø: 1,600 mm

OPTIMIX 2G / 2A 3-4 kW

Power: 3.0 / 4.0 kW
Propeller-Ø: 380 / 310 mm
Available in stainles steel or coated

OPTIMIX 2G / 2A

Power: 4.0 - 15.0 kW
Propeller-Ø: 580 - 850 mm
Available in stainles steel or coated

OPTIMIX 3G 100-135

Power: 10.0 kW
Propeller-Ø: 1,200 mm
Available in stainles steel or coated

OPTIMIX 3G / 3A

Power: 25.0 kW
Propeller-Ø: 900 mm
Available in stainles steel or coated

OPTIMIX 4G

Power: 15.0 kW
Propeller-Ø: 1,200 mm
Incl. POM protection

Gastight ceiling lead through GDD

Container depth 14 m
Swivel radius 360°
Height adjustable with winch

Gastight mast lead through MGD

Container depth 14 m
Swivel radius 210°
Height adjustable with winch

Suspension mounting frame EV

Container depth 12 m
Swivel radius 120°

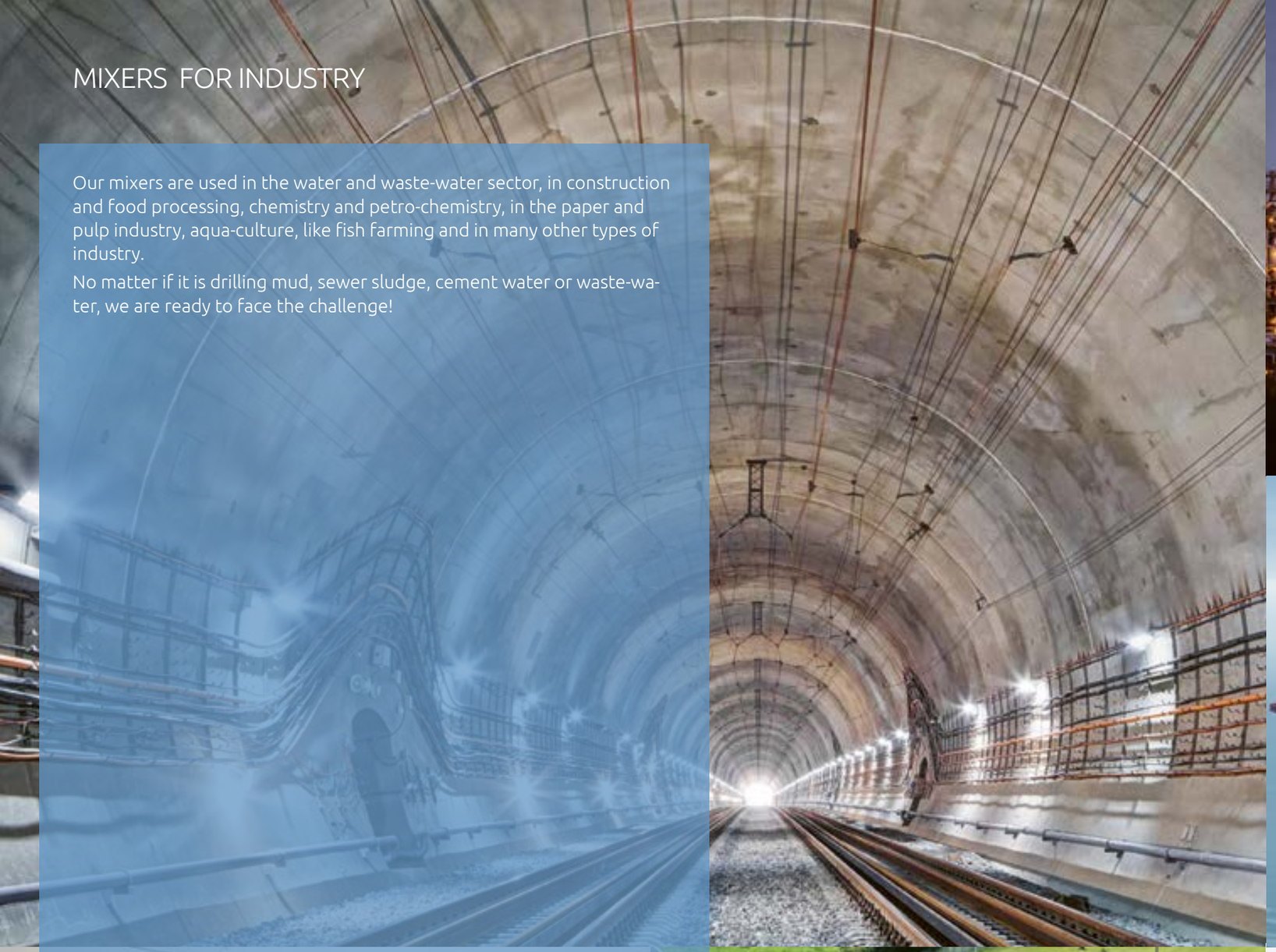
PRESSURA LW / TP 150

Long-axis or submersible pump
Power: 15.0 kW
Tube length: 1.5 - 8.0 m

MIXERS FOR INDUSTRY

Our mixers are used in the water and waste-water sector, in construction and food processing, chemistry and petro-chemistry, in the paper and pulp industry, aqua-culture, like fish farming and in many other types of industry.

No matter if it is drilling mud, sewer sludge, cement water or waste-water, we are ready to face the challenge!



MIXERS FOR INDUSTRY

SUMA Mixers for industry are available in many versions: as submersible mixers or shaft agitators in stainless steel or coated. Due to our wide product range we can offer the appropriate solution for many industrial processes.

OPTIMIX 2A 8/15/22

Power: 0.8 - 2.2 kW
Propeller-Ø: 250 / 320 / 380 mm
Completely in ss304

OPTIMIX 2A 3/4 kW

Power: 3.0 / 4.0 kW
Propeller-Ø: 380 / 310 mm
Completely in ss304 or ss316

OPTIMIX 2A

Power: 4.0 - 15.0 kW
Propeller-Ø: 580 - 850 mm
Completely in ss304 or ss316

OPTIMIX 3A

Power: 25.0 kW
Propeller-Ø: 900 mm
Completely in ss304 or ss316

OPTIMIX 2G 3/4 kW

Power: 3.0 / 4.0 kW
Propeller-Ø: 380 / 310 mm
Galv. separation from mast

OPTIMIX 2G 55-75

Power: 5.5 kW
Propeller-Ø: 1,400 mm
Float rate: 75 rpm

OPTIMIX 2G 150-275

Power: 15.0 kW
Propeller-Ø: 850 mm
Galv. separation from mast

OPTIMIX 2G

Power: 4.0 - 15.0 kW
Propeller-Ø: 580 - 850 mm
Galv. separation from mast

OPTIMIX 3G

Power: 25.0 kW
Propeller-Ø: 900 mm
Galv. separation from mast

Suspension mounting frame EV

Container depth 12 m
Swivel radius 120°

Gastight ceiling lead through GDD

Container depth 14 m
Swivel radius 360°
Height adjustable with winch

GIANTMIX FR light

Power: 4.0 / 7.5 kW
Tube length 1.0 / 1.5 m
Propeller-Ø: 520 - 700 mm

GIANTMIX FR SP

Power: 7.5 - 18.5 kW
Tube length: 3.0 / 4.0 m
Propeller-Ø: 620 - 850 mm

GIANTMIX FR 30°

Power: 7.5 - 18.5 kW
Tube length: 3.0 / 4.0 m
Propeller-Ø: 620 - 850 mm

GIANTMIX FR stationary

Power: 11.0 - 18.5 kW
Tube length: 2.5 / 3.0 m
Propeller-Ø: 580 - 660 mm

GIANTMIX FT

Power: 7.5 - 22.0 kW
Tube length: 4.0 / 5.0 / 5.5 / 6.0 m
Propeller-Ø: 620 - 880 mm

MIXERS & PUMPS FOR AGRICULTURE

In order to achieve maximum results when spreading manure as fertilizer, mixing is essential. Since its founding in 1957, SUMA has the goal to make the mixing process as efficient and effective as can be.

Regardless of having a manure pit, overhead tank or lagoon, you can stir with us. We also offer the correct solution for narrow constructions and tight openings.

The PRESSURA pump product line complements our wide range of products for effective manure management.
Easy installation, reliable operation and quick exchange of components ensure that SUMA customers enjoy their product for years and years.

MIXERS & PUMPS FOR AGRICULTURE

SUMA offers a multitude of mixers for agriculture. Whether tractor- driven or electrically driven, mobile or stationary, with agricultural mixers you can stir your manure optimally before distributing it on the field. Achieve best results when pumping slurry and other liquids, substrates and media with our PRESSURA pump range.

GIANTMIX Z3 stationary

Tractor power: 60 - 88 kW
Tube length: 2.0 / 2.5 m
Propeller-Ø: 560 - 700 mm

GIANTMIX Z3

Tractor power: 44 - 88 kW
Tube length: 3.5 - 5.5 m
Propeller-Ø: 480 - 580 mm

GIANTMIX Z4

Tractor power: 72 - 130 kW
Tube length: 5.0 - 7.0 m
Propeller-Ø: 560 - 660 mm

GIANTMIX Z5

Tractor power: 100 - 160 kW
Tube length: 6.0 - 8.0 m
Propeller-Ø: 620 - 700 mm

GIANTMIX Z6

Tractor power: > 160 kW
Tube length: 7.5 / 9.0 m
Propeller-Ø: 700 - 850 mm

REKORDMIX

Power: 4.0 - 7.5 kW
Tube length: 2.25 - 4.25 m
Propeller-Ø: 320 / 275 / 300 mm

GIANTMIX MZR

Power: 11.0 - 18.5 kW
Tube length: 4.0 - 6.0 m
Propeller-Ø: 580 mm

OPTIMIX 2G mobile

Power: 9.0 kW - 380 rpm
Vehicle width: 970 mm
Optional: Telescope range 2.75 m

OPTIMIX 2G eco mobile

Power: 7.5 kW - 1,450 rpm
Up to 3.5 m into pit
Pit opening from 35 x 60 cm

OPTIMIX stationary

Power: 9.0 - 15.0 kW
Propeller-Ø: 580 - 620 mm
Up to 2.0 m pit depth

OPTIMIX adjustable

Power: 9.0 - 15.0 kW
Adjustable with cable winch
Up to 4.0 m pit depth

OPTIMIX 2G 150-380

Power: 15,0 kW
Propeller-Ø: 660 mm
Galv. separation from mast

OPTIMIX 2G 90-380

Power: 9.0 kW
Propeller-Ø: 580 mm
Galv. separation from mast

Suspension mounting frame EV

Container depth 12 m
Swivel radius 120°

PRESSURA LW 150

Long-axis pump
Power: 15.0 kW
Tube length: 1.5 - 8.0 m

PRESSURA TP 150

Submersible pump
Power: 15.0 kW
Tube length: 1.5 - 8.0 m

SELECTED REFERENCES

Get an overview of our domestic and international contributions in a small selection of projects.

Based on a research project, this plant was initiated as a cooperation by 53 farmers. The bio methane is fed into natural gas distribution network.
The plant is operated with 54,000 tons of waste (1,618 tons of green waste, 26,383 tons of solid manure, 25,284 tons of liquid manure and 1,000 tons of rainwater) per year.
To keep odor emissions low, a building has been constructed for deliveries and for the management of the residual material.

The plant was designed by Naskeo Environnement from France and is equipped with SUMA mixers.

The installed mixers homogenize the substrate.
To achieve the maximum gas yield. Six submersible mixers OPTIMIX with masts and six shaft agitators Giantmix are permanently in operation.

160 Nm³ of methane are produced per hour

80 % of the residual material is spread on agricultural land. The remaining 20 % are used for the production of biofertilizer.

>> DATA

Location: La Seguinière, France

Type: Biogas plant

Container:
Pre-pit: Ø 14.5 m x 6.0 m
Fermenter: Ø 30.0 m x 8.0 m
Secondary Fermenter: Ø 30.0 m x 8.0 m

Substrate: 95 % manure
3 % green waste
2 % rainwater

Mixers:
Pre-pit: 4x OPTIMIX 2G 150-275
Fermenter: 1x OPTIMIX 2G 150-275
3x GIANTMIX FT5
Secondary Fermenter: 1x OPTIMIX 2G 150-275
3x GIANTMIX FT4

Performance: 160 Nm³ CH_4/h

The challenge for the design of the stirring technology was to stir large fermenters. During the winter months, the tanks should serve as intermediate storage as long as no liquid manure can be spread. The stirring technology has to function reliably even with changing filling levels. Horizontal and vertical adjustability were therefore further conditions.

The plant, which was erected in 2011 and expanded in 2017, currently consists of two fermenters, with 1,500 m³ and 8,300 m³ capacity. The plant generates an output of 2.5 MW from cattle manure from its own farm and food waste from the surrounding area. The gas is converted into electricity at the plant and fed into the grid. The stirring technology of the fermenter consists of 4x Giantmix AMX with a propeller diameter of 1.6 m.

"In my opinion, SUMA has more 'Real World' experience than any other agitator manufacturer. With the size of our vessels, we relied on SUMA's experience to design the stirring technology. After some initial difficulties, we were able to quickly bring our plant online together with SUMA. The cooperation was excellent!" summarizes the Plant Manager at Exeter Agri-Energy.

>> DATA

Location: Maine, USA

Type: Biogas plant

Container: Ø 40.0 m x 7.5 m

Substrate: 62.5 % manure
37.5 % leftovers

Mixers: 4x GIANTMIX AMX

Performance: 2.5 MW

The plant in Pingdu, Qingdao in China has been in operation since October 2017. Pingdu is one of the most efficient agricultural centres in Shandong Province. The straw produced is one of the greatest challenges for waste management. For some years now, straw has been used as a substrate for biogas plants. The effect: the environmental impact of burning is reduced enormously. At the same time, scarcities in local gas supplies can be mitigated.

The Chinese government has therefore co-financed the plant with the equivalent of almost € 5 million. The plant covers 37 hectares and produces up to 20,000 m³ of natural gas per day, which is fed directly into the gas grid.

The waste heat generated in the process is used directly to heat the fermenter. In each of the 6 tanks, Ø 27.5 m x 9.5 m high with a filling level of 8.3 m, one Giantmix FR SP 150-275 and four Optimix 2G 150-275 with gas-tight ceiling duct (GDD) are installed. The GDD allows maintenance of the mixers without lowering the filling level in the tank. Since maize straw forms a highly abrasive substrate, corrosion-resistant polymer-coated mixer blades have been selected.

>> DATA

Location: Qingdao, China

Type: Biogas plant

Container: Steel tanks
3 Fermenter: Ø 27.5 x 9.5 m
3 Secondary Fermenter : Ø 27.5 x 9.5 m
Substrate: maize straw

Mixers:
in each Fermenter:
4x OPTIMIX 2G 150-275 with GDD
1x GIANTMIX FR SP
in each Secondary Fermenter:
4x OPTIMIX 2G 150-275 with GDD

Performance: 20.000 Nm^3 natural gas/day

The plant installed in 2017 consists of a pre-pit in which the substrate is mixed and a fermenter. The substrate consists of 70 % manure as well as by-products from agriculture and the production of oilseeds. The feed into the power grid takes place over the year under continuous load, with only minor fluctuations. The waste heat is used for the fermenter and the house. An expansion to adjacent households is planned.

The Optimix 2G submersible mixer is installed in the pre-pit. In the fermenter, three rod mixers are stirring: one Giantmix FR and two Giantmix FT, each with an output of 15 kW. The SUMA rod mixers can be operated up to 8 metres below filling level. Due to the horizontal and vertical adjustability of +/- 30° each, it is possible to react flexibly to different substrate states and conditions. Even fluctuating filling levels, floating or sinking layers can be stirred in a targeted manner. In this densely populated region, low-noise spur gear units on the mixers meet the strict noise protection requirements.

>> DATA

Location: Cremona, Italy

Type: Biogas plant

Container:
Pre-pit: Ø 8.0 m x 4.0 m
Fermenter: Ø 24.0 m x 8.0 m

Substrate: 70% manure
30% by-products from agriculture

Mixers: OPTIMIX 2A
GIANTMIX FR
GIANTMIX FT

Performance: 249 kW

Since July 2019 the Giantmix Z3 is used to stir cattle manure on Germany's largest and highest alpine pasture.
The alp lies at 1,760 m in the Fellhorn nature reserve near Oberstdorf, high above the Stillachtal valley. The slurry of approx. 70 dairy cows, which spend the Alps summer on the mountain from the beginning of June to the middle of September, is stirred up there.
The cows give over 90,000 - 100,000 litres of milk during the summer, which is used to produce mountain cheese directly on the Alpe. The Alpe has been run as a cooperative for 300 years.
It has two pits, one with 80 m³ and another with 50 m³.

The larger of the two pits is stirred with the tractor-operated SUMA Z3 mixer.
In order to be able to manage the Alpe in the best possible way, the company cooperates with a neighbouring Alpe. For example, one helps each other with the tractor or the alpine dairymen (employees on the alp).

>> DATA

Location:	Oberstdorf, Germany
Type:	Agriculture
Container:	Pit with 80 m³ Pit with 50 m³
Substrate:	Manure
Mixers:	GIANTMIX Z3


Germany


Costa Rica


Canada


Germany


United Kingdom


Poland

CONTACT

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As per: 2021/05