



*Solutions for*  
**BIOGAS  
ENERGY**

 **Bonfiglioli**





# *Solutions for*

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# Engineering Solutions



[WWW.BONFIGLIOLI.COM](http://WWW.BONFIGLIOLI.COM)

# BIOGAS ENERGY

## SPECIFIC PRODUCTS AND SOLUTIONS FOR BIOGAS ENERGY.

Biogas is an environmentally-friendly, renewable energy source. It is produced when organic matter, such as food or animal waste, is broken down by microorganisms in the absence of oxygen, in a process called anaerobic digestion.

Biogas can occur naturally or as part of an industrial process to intentionally create it as fuel.

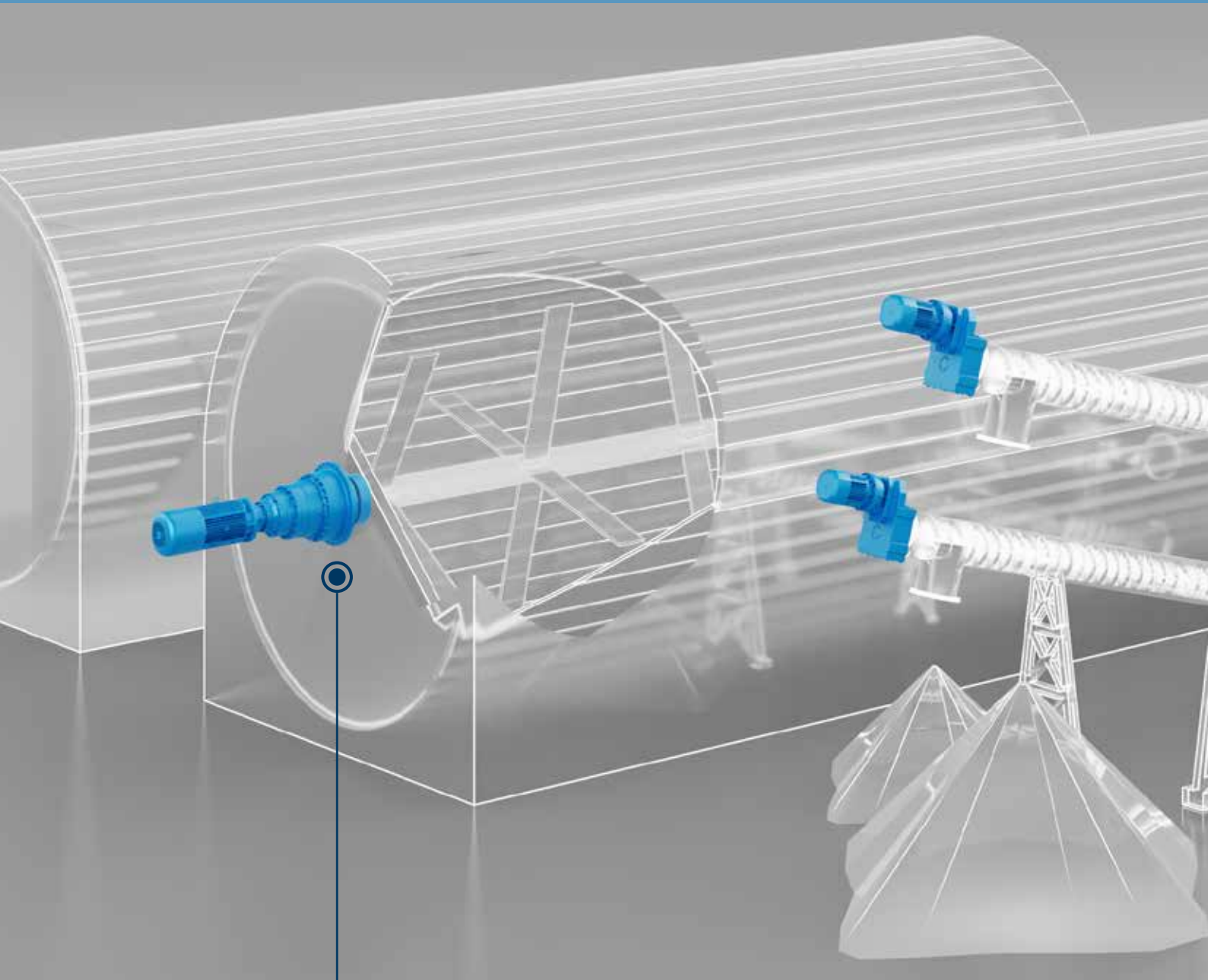
The biogas is then used as a fuel to partially or definitively replace fossil-derived fuel.

Bonfiglioli has designed optimized solutions specific to this kind of installation, which has very stringent requirements in terms of reliability and quality of the components at the heart of transport for biogas production.

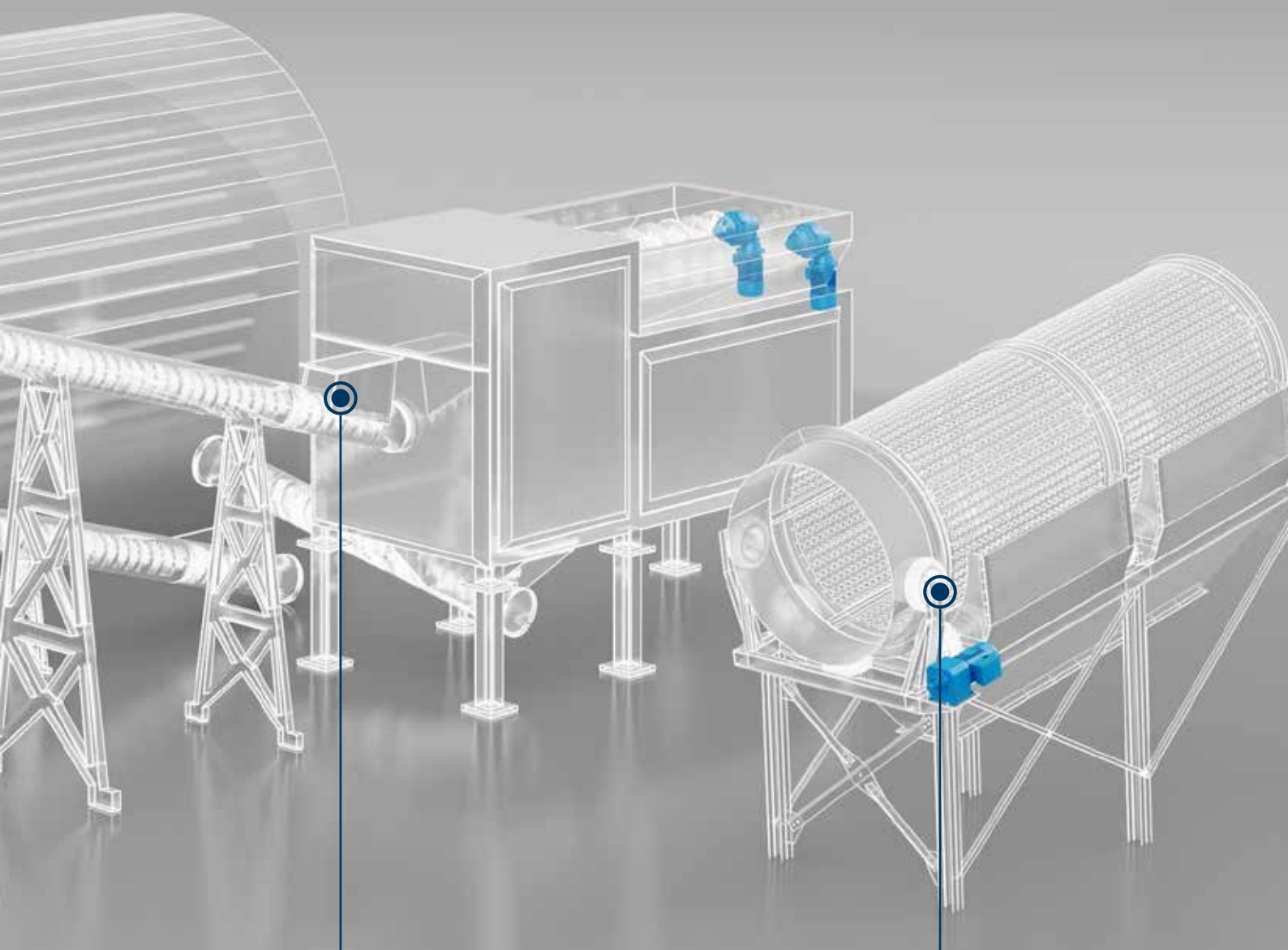
Specifically, Bonfiglioli supplies complete solutions for transporting the biomass agitation/heating blades and equipment for biogas production plants, with its complete range of drives and accessories for the transmission of the power required for the operation of the installations.

## SCAN TO CONTACT OUR SALES DEPT:



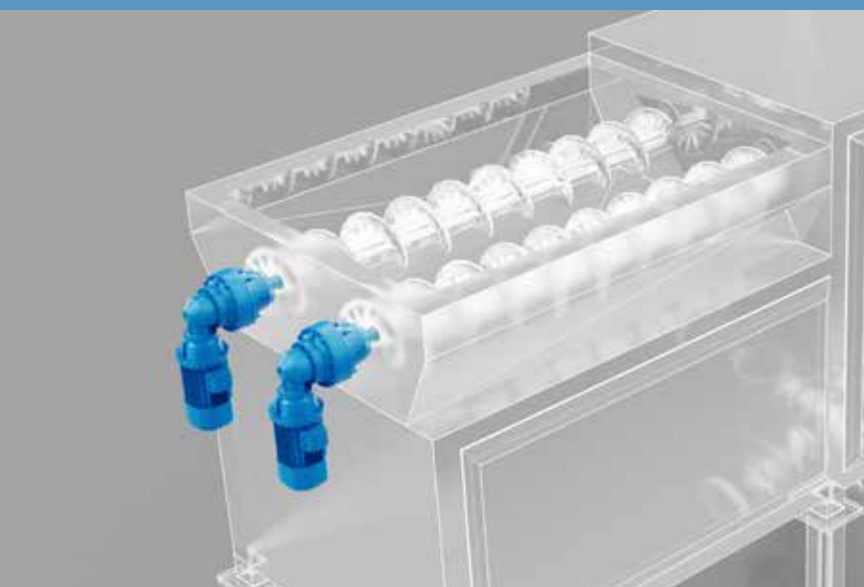


**3 ANAEROBIC MSW DIGESTER**



**1 DEPACKAGING AND RECOVERY**

**2 SIEVING DRUMS**

**1****DEPACKAGING AND RECOVERY**

Shredders reduce the volume of municipal solid waste (MSW), depack the plastic from the waste and select the material with the automatic sorting line. The 300M Series Planetary rating torque guarantees a complete range of shredding machine applications. We supply solutions that ensure speed and precision when handling bulk material.

**300M Series**

Planetary gearbox and geared motor

**BENEFITS**

- High shock load resistance
- Modular design
- Reliable and customized solution for harsh working conditions
- High torque capabilities for low-speed output rotation

**FEATURES**

- Output shaft spline design (according to standard DIN 5480)
- Class C3, C4 and C5 surface protection (according to standard UNI EN ISO 12944-2)
- Customized in combination with other gearbox solutions for higher reduction and output torque

**Agile Series**

Smart inverter

- Smooth start
- Feed roll control
- Low energy consumption

- Series optionally extendable for field bus communication
- Sensorless synchronous and asynchronous motor control
- Modbus and Systembus on-board
- DC link connection
- Integrated brake chopper
- Power failure management
- Programmable PI controller
- Integrated VPLC
- Electronic gear via analogue wire or Systembus
- Integrated Safe Torque Off STO (SIL 2 /PL d) function
- Energy saving function
- Smart current limits
- Output frequency 0...599 Hz, higher frequencies on request
- Diagnosis and setup via integrated keypad and integrated service interface for PC connection



## F Series

Helical bevel gearmotors

### BENEFITS

- Compact design
- High Torque-to-Weight ratio

### FEATURES

- Aluminum housing up to size 25; Die-cast housing from size 31 to 90



## DGM Series

Decentralized Inverter

- Wide range of kW from 0.55 to 30 kW
- Ethernet stack to manage with 1 product code: Profinet, Ethernet IP, Sercos3, Ethercat
- Motor brake management

- IP65 Inverter
- Reduction of electrical wiring
- Management of asynchronous motor, reluctance synchronous

**2**

## SIEVING DRUMS

Sieving drums separate and recover waste by size. EVOX CP solution ensures the continuous operation of the rotating drum in any working condition with high efficiency.



### Evox CP Series

Helical in-line gearbox and geared motor In-line layout

**BENEFITS**

- Interchangeable with the market standard
- Ready for any energy efficiency requirements
- Reliable and durable solution
- IoT connected for condition monitoring and predictive maintenance

**FEATURES**

- Modular design of output shaft, housing, bearings and input connections
- Universal motor voltage with premium efficiency (IE2/IE3)
- Modular brakes, encoders and fans



### Agile Series

Smart inverter

- Smooth start
- Feed roll control
- Low energy consumption

- Series optionally extendable for field bus communication
- Sensorless synchronous and asynchronous motor control
- Modbus and Systembus on-board
- DC link connection
- Integrated brake chopper
- Power failure management
- Programmable PI controller
- Integrated VPLC
- Electronic gear via analogue wire or Systembus
- Integrated Safe Torque Off STO (SIL 2 /PL d) function
- Energy saving function
- Smart current limits
- Output frequency 0...599 Hz, higher frequencies on request
- Diagnosis and setup via integrated keypad and integrated service interface for PC connection



3

## ANAEROBIC MSW DIGESTER

The Anaerobic Digester consists of slowly rotating paddle agitator that ensures optimum mixing of the digestate.

The 300M Series Planetary guarantees high peak load capacity, the best in class in terms of mechanical performances.



### 300M Series

Planetary gearbox and geared motor

#### BENEFITS

- High torque capabilities (up to 2,000,000Nm)
- Lifetime extension for continuous duty application
- Easy installation and maintenance
- Explosion proof solution
- Reliable solution for harsh working conditions

#### FEATURES

- Shrink disk output
- Class C3, C4 and C5 surface protection (according to standard UNI EN ISO 12944-2)
- High and premium efficiency motors (IE2, IE3)
- ATEX certified
- Suited for Torque arm design

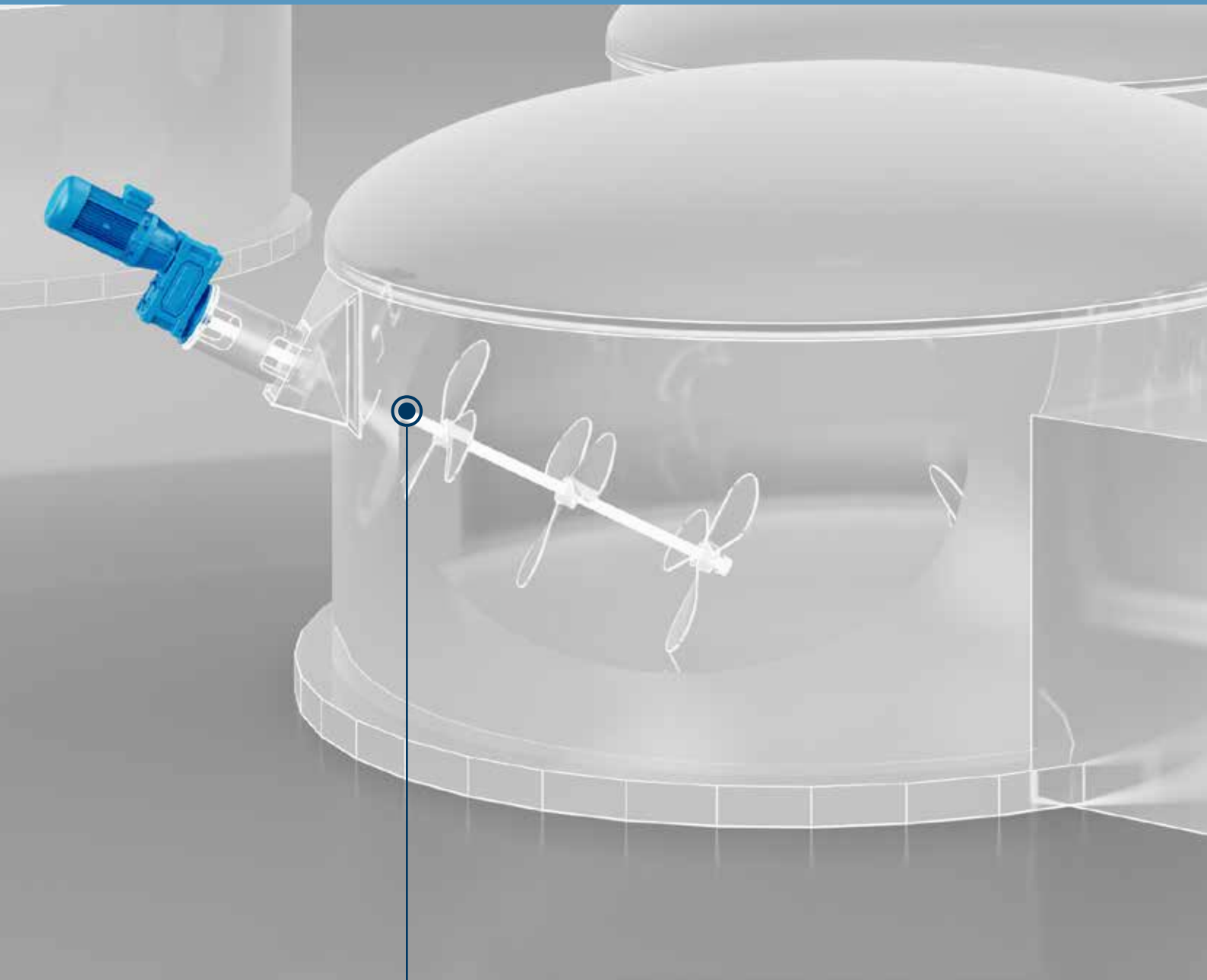


### Active Series

Smart / Premium inverter

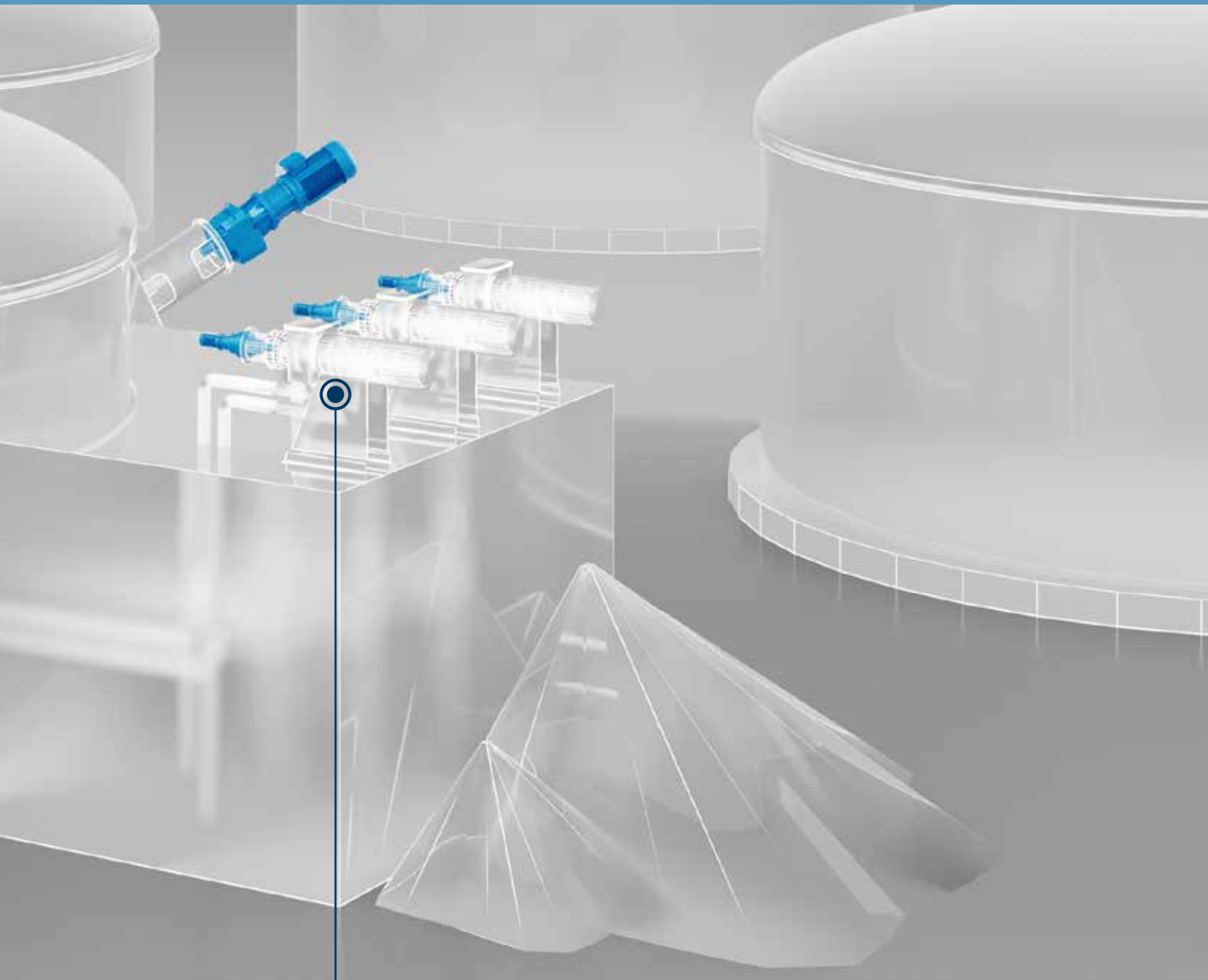
- Synchronous and asynchronous motor control with or without encoder
- Electronic block detection
- Maximum torque for the entire speed range
- Boost of kinematic energy by speed increase
- 400kW single device with 180% overload
- Air- and water-cooled
- Cabinet solution available

- Series optionally extendable for field bus communication and encoder evaluation
- Plug-in power terminals (up to 3kW)
- Plug-in and programmable control terminals
- DC link connection
- Integrated brake chopper
- Positioning function via field bus (motion control compatible to CiA DS402)
- Integrated VPLC
- Electronic gear in speed or position control
- Power failure management
- Integrated Safe Torque Off STO (SIL 3 /PL e) function
- Output frequency 0...599 Hz, higher frequencies on request
- Diagnosis and setup via optional keypad or PC software



**1**

**BIOMIXERS AND AGITATORS**



**2**

**SEPARATOR**



1

## BIOMIXERS AND AGITATORS

The biomixer provides a strong, slow and continuous mixing action.

HDP and C Series Gearbox guarantees reliable operation with the infinitely variable angle adjustment of the agitator.



### HDP Series

Helical parallel gearbox and geared motor  
Heavy duty applications (typical nominal output torque greater than 5000Nm)



### C Series

In-line gearbox and geared motor  
Small & Medium duty applications (typical nominal output torque up to 5000Nm)



### Agile Series

Smart inverter

#### BENEFITS

- High torque capabilities
- High shock load resistance
- Condition Monitoring
- Lifetime extension for continuous duty application
- Explosion proof
- Universal mounting

#### FEATURES

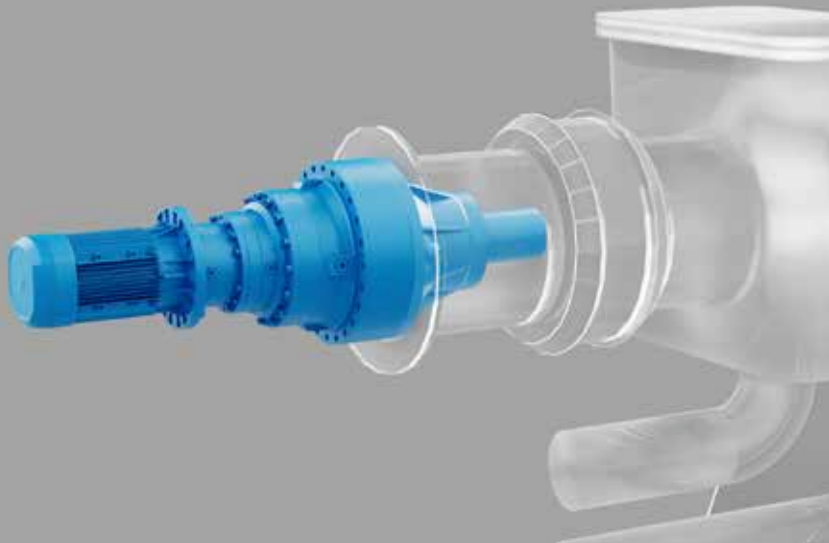
- Customized gearbox solutions
- IoT ready
- Atex certified
- Customized in combination with other gearbox solutions

- Compact design
- High Torque-to-Weight ratio

- Space-optimized design
- Compact motor coupling
- Unibox housing
- Forced gear-shaft coupling
- Servomotor coupling
- Wide ratio range (4 stages)
- Atex gearbox for explosive environments 2G/2D

- Smooth start
- Feed roll control
- Low energy consumption

- Series optionally extendable for field bus communication
- Sensorless synchronous and asynchronous motor control
- Modbus and Systembus on-board
- DC link connection
- Integrated brake chopper
- Power failure management
- Programmable PI controller
- Integrated VPLC
- Electronic gear via analogue wire or Systembus
- Integrated Safe Torque Off STO (SIL 2 /PL d) function
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- Smart current limits
- Output frequency 0...599 Hz, higher frequencies on request
- Diagnosis and setup via integrated keypad and integrated service interface for PC connection



2

## SEPARATOR

The press screw is used to separate liquid from organic solid waste.

The 300M Series Gearbox guarantees a compact, easy to install design. The reliable operation of the system is also assured by the control and regulation of the Agile series Inverter unit, for a wide range of throughput capacities.



### 300M Series

Planetary gearbox and geared motor

- Easy installation and maintenance
- Reliable solution for harsh working conditions



### Agile Series

Smart inverter

- Smooth start
- Feed roll control
- Low energy consumption

#### BENEFITS

#### FEATURES

- High axial load support
- Flange mounted
- Class C3, C4 and C5 surface protection (according to standard UNI EN ISO 12944-2)

- Series optionally extendable for field bus communication
- Sensorless synchronous and asynchronous motor control
- Modbus and Systembus on-board
- DC link connection
- Integrated brake chopper
- Power failure management
- Programmable PI controller
- Integrated VPLC
- Electronic gear via analogue wire or Systembus
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# OUR PROJECTION INTO THE FUTURE

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MORE THAN 250 EMPLOYEES AROUND THE WORLD  
ARE INVOLVED IN THE GROUP'S R&D ACTIVITIES.

## DESIGN SIMULATION

Bonfiglioli has the most advanced **virtual simulation techniques** that allow to speed up the validation process, thus reducing time to market and providing customers with optimized and efficient solutions.



## TEST LABORATORIES

In our R&D department we **research, develop, validate and certify** all the products and solutions which are engineered and manufactured in our plants across the world.



## CO-ENGINEERING

At Bonfiglioli we **work close to our customers to satisfy all their needs** and requirements with a true tailor-made solution.



# OUR CONSTANT AMBITION

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QUALITY, HEALTH, SAFETY, ENVIRONMENT & ENERGY

## QUALITY: WE CARE ABOUT OUR CUSTOMERS

Our team is wholly dedicated to continuous improvement in the quality, safety, environmental and energy spheres throughout the entire value chain, from the smallest supplier to the end client. Bonfiglioli is committed to achieving the highest quality standards, and our products are intended to generate value for our customers while respecting both people and the environment. We design, manufacture and supply effective products and services that set a benchmark for quality in the industry.

Bonfiglioli management systems are certified ISO 9001: 2015, ISO 14001: 2015, ISO 45001: 2018 and ISO 50001:2018, while our products are covered by 7 international certifications. Responsibility, excellence and continuous improvement are the basic elements that make us the favored partner of our clients and suppliers.

## HEALTH & SAFETY: SUSTAINABILITY STARTS WITH SAFETY

Prevention of accidents and incidents is a key element of our company's sustainability strategy and an integral part of each one of our business processes. The successful management of risks is essential for protecting our employees and assets, thereby strengthening their contributions.

## ENVIRONMENT & ENERGY: RESPECT THE PRESENT TO BUILD THE FUTURE

At Bonfiglioli, we believe that respect for the present and the adoption of environmental protection and energy efficiency policies are essential if we are to enjoy a better future.

# OUR GLOBAL PRESENCE

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Thanks to an international network of closely interconnected commercial and production sites, we can guarantee the same high standards of Bonfiglioli quality anywhere at any given time. We know that our direct presence in local markets is the key to long-lasting success, so our family includes 18 production sites, 23 commercial sites and more than 550 distributors around the world.

Our organization is always close by, offering complete and efficient solutions and supporting our customers with dedicated services, co-engineering and after-sales assistance.



**18**

PRODUCTION SITES



**23**

COMMERCIAL SITES



**80**

COUNTRIES



**550**

DISTRIBUTORS



**~4,700**

PEOPLE

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We have a relentless commitment to excellence, innovation & sustainability. Our team creates, distributes and services world-class power transmission & drive solutions to keep the world in motion.

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