

Solutions for
**WASTEWATER
TREATMENT**

 **Bonfiglioli**



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Engineering Solutions



WWW.BONFIGLIOLI.COM

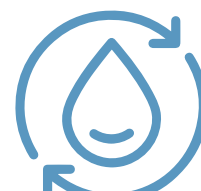
WASTEWATER TREATMENT

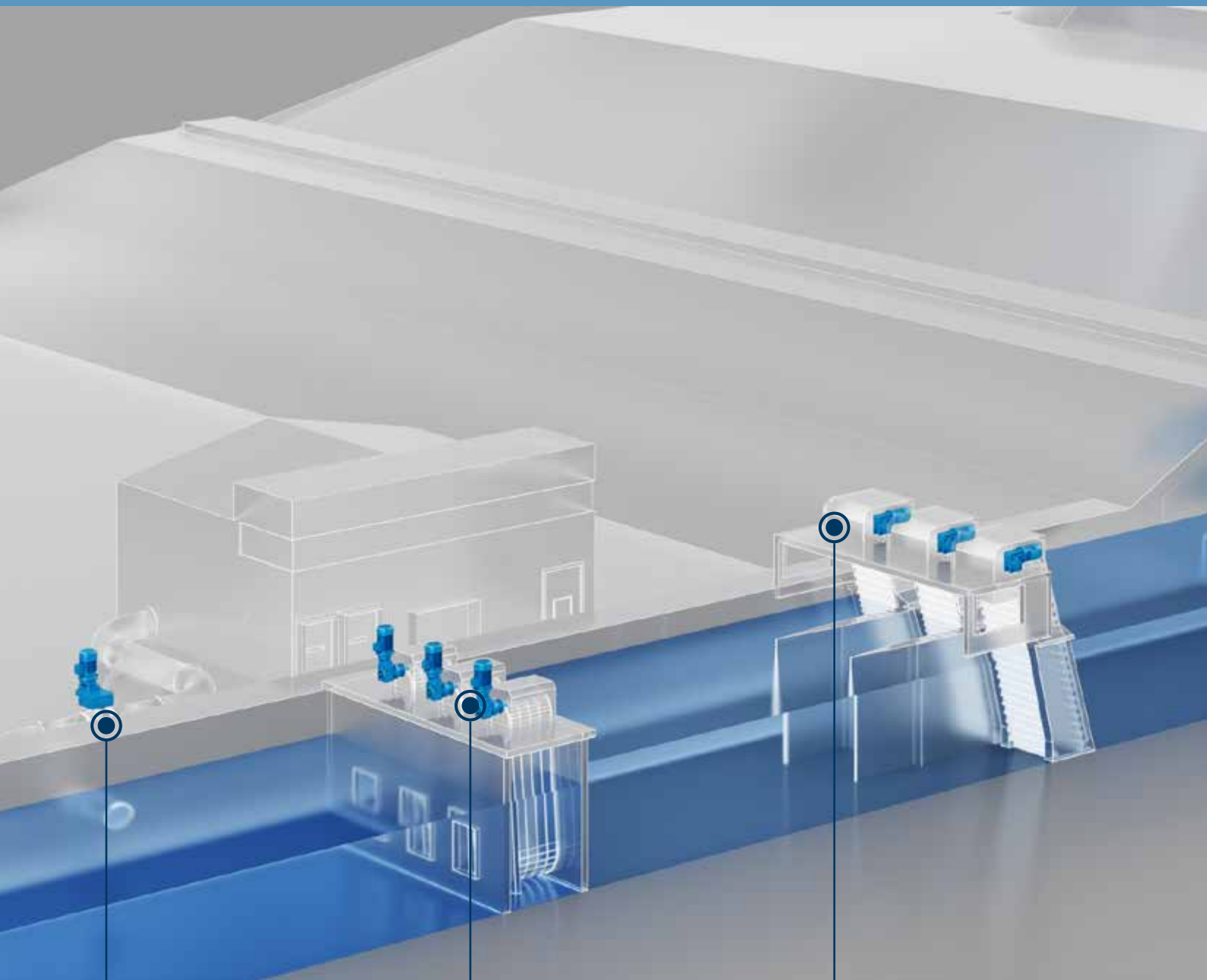
EFFICIENT, COMPACT SOLUTIONS FOR WATER TREATMENT

From desalination to purification, water and wastewater is a complex sector that requires reliable solutions to ensure uninterrupted operation.

With a comprehensive portfolio of power transmission products, Bonfiglioli can offer efficient solutions for all kinds of applications to support wastewater treatment plants. Easy maintenance, adaptability, compactness and a wide torque range are other fundamental features demanded by water and wastewater processes.

Perfect control of the drive speed and therefore water flow, easy maintenance and high reliability are key elements that enable us to supply our customers with energy saving solutions for the filters, mixers, areators, agitators, water flow control typically used in this sector.

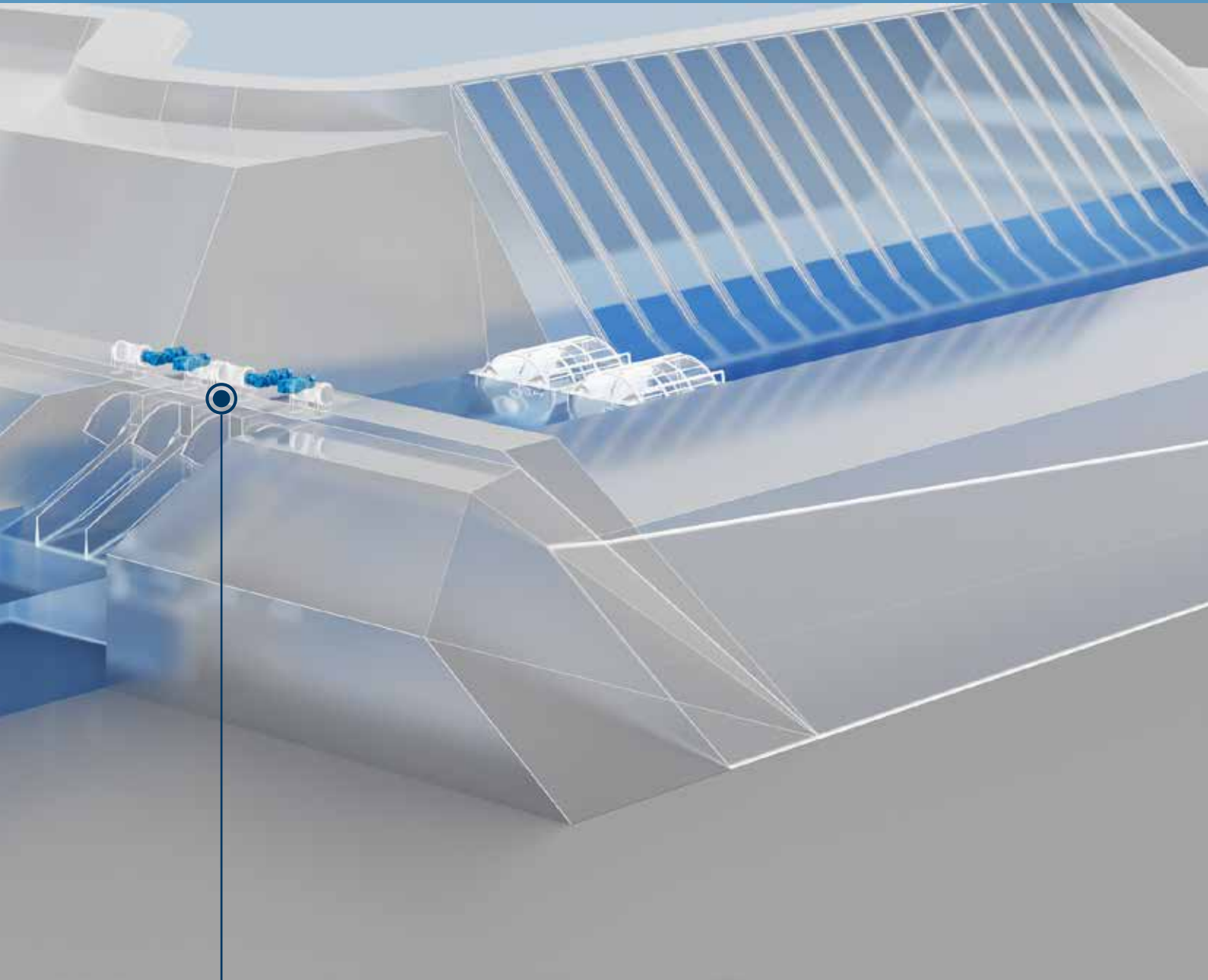




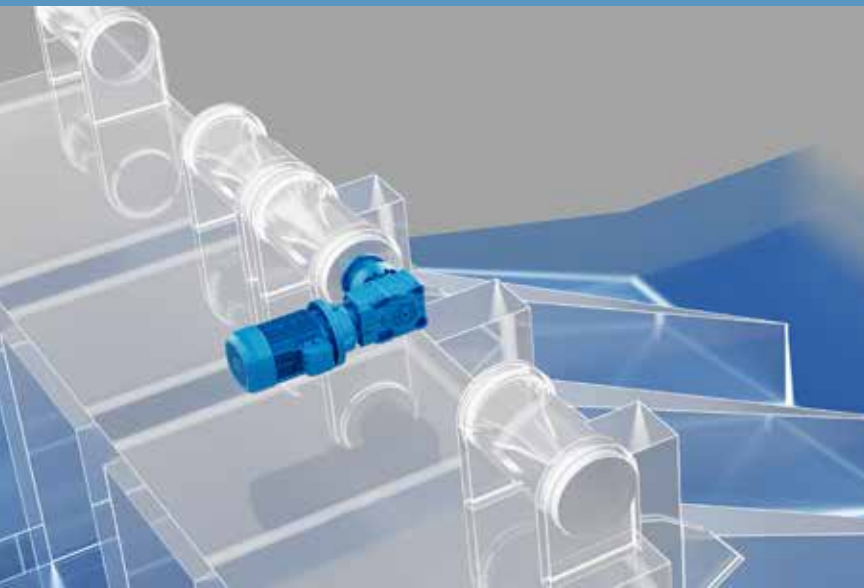
4 DEBRIS FILTER

3 BAND SCREENER

2 TRASH RAKE



1 WATER GATE

**1****WATER GATE**

Ensure precise and dependable flow control, even remotely. Our solution delivers top-tier control which is both reliable and efficient, leveraging a wide range of technologies for optimum performance even in challenging environmental conditions.

**3/A Series**

Planetary gearboxes combined with helical bevel geared motor

**BXN Series**

Asynchronous reluctance motors

**Agile Series**

Smart inverter

BENEFITS

- Also suitable for high torque application gates
- Easy to match the application's required speed
- Easy installation even in tight spaces (simplified maintenance)
- Suitable for pinion/chain transmission

- High dynamics
- Reduced total cost of ownership (TCO)
- Reliability and Robustness
- Space savings

- Smooth start
- Fine speed regulation for optimal control
- Energy saving function: current consumption redirection during start phase

FEATURES

- Nominal Torque up to 1300 kNm
- Wide ratio range (300+combined)
- Modular design
- High radial load capability on output shaft

- Power range: 0.37 to 11 kW
- Low rotor inertia
- Low heat dissipation
- High speed range: 0 to 3,000 rpm (max)
- High torque at zero speed

- Vector control
- Modbus and Systembus on board
- DC link connection
- Integrated brake chopper
- Power failure control
- Programmable PI Controller
- Integrated VPLC
- Integrated safe torque off STO (SIL 2 / PL d) function
- Energy Saving function

OPTIONS

- Motor anticondensate heaters and tropicalized windings
- Protection Degree up to IP 56, C4 or C5 surface protection according to ISO 12944-2
- Energy certified motors compliant with most MEPS (Minimum Efficiency Performance Standards)
- Fluoroelastomer and double lip seals.

2

TRASH RAKE

Trash Rakes, together with similar machines, are engineered to efficiently extract debris, waste, and sizable materials from the primary water flow. Because of their critical function, durability and dependability are paramount with these machines. Our solutions offer unparalleled solidity and robustness, coupled with outstanding efficiency and cutting-edge technology. What's more, we seamlessly integrate rugged design with advanced technology for maintenance and preemptive servicing.



VF/W Series

Worm gearbox and geared motor



BXN Series

Asynchronous reluctance motors



Agile Series

Smart inverter

BENEFITS

- Effective use of space
- Easy maintenance
- Mounting flexibility

- High dynamics
- Reduced total cost of ownership (TCO)
- Reliability and Robustness
- Space savings

- Smooth start
- Fine speed regulation for optimal control
- Energy saving function: current consumption redirection during start phase

FEATURES

- Right angle layout
- Wide torque range
- Several output options

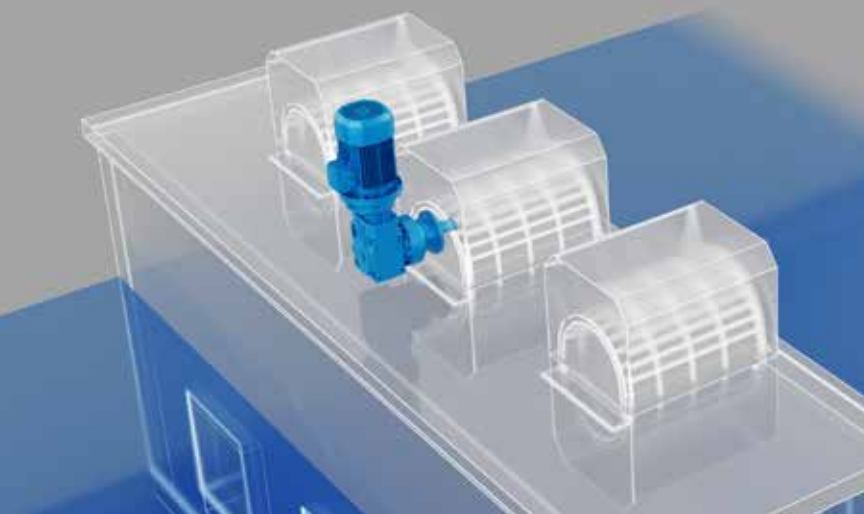
- Power range: 0.37 to 11 kW
- Low rotor inertia
- Low heat dissipation
- High speed range: 0 to 3,000 rpm (max)
- High torque at zero speed

- Vector control
- Modbus and Systembus on board
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- Programmable PI Controller
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OPTIONS

- Motor anticondensate heaters and tropicalized windings
- Protection Degree up to IP 56, C4 or C5 surface protection according to ISO 12944-2
- Energy certified motors compliant with most MEPS (Minimum Efficiency Performance Standards)
- Fluoroelastomer and double lip seals.





3

BAND SCREENER

Stormwater often carries a mix of natural and man-made debris, which all needs to be effectively separated from the water before it goes on to the next stage of purification. A range of movable cleaning systems are used to ensure the filters stay clear at all times. Our gearmotors and solutions stand out as the best choice, offering a blend of reliability, robustness, cost-effectiveness, and efficiency.



3/A Series

Planetary gearbox combined with Helical bevel geared motor



BXN Series

Asynchronous reluctance motors



Agile Series

Smart inverter

BENEFITS

- High torque transmission and power output
- High level of flexibility in layout and mounting position
- Reliable operation with vertical installation
- Space-saving solution

- High dynamics
- Reduced total cost of ownership (TCO)
- Reliability and Robustness
- Space savings

- Smooth start
- Fine speed regulation for optimal control
- Energy saving function: current consumption redirection during start phase

FEATURES

- Backstop device
- Planetary and helical bevel gear technology
- Shaft mounting
- Rain Canopy

- Power range: 0.37 to 11 kW
- Low rotor inertia
- Low heat dissipation
- High speed range: 0 to 3,000 rpm (max)
- High torque at zero speed

- Vector control
- Modbus and Systembus on board
- DC link connection
- Integrated brake chopper
- Power failure control
- Programmable PI Controller
- Integrated VPLC
- Integrated safe torque off STO (SIL 2 / PL d) function
- Energy Saving function

OPTIONS

- Motor anticondensate heaters and tropicalized windings
- Protection Degree up to IP 56, C4 or C5 surface protection according to ISO 12944-2
- Energy certified motors compliant with most MEPS (Minimum Efficiency Performance Standards)
- Fluoroelastomer and double lip seals.

4

DEBRIS FILTER

Whether it's a Band Screener or a Rake Filter, the ultimate goal of the Debris Filter is to efficiently capture and eliminate unwanted materials and debris from the fluid stream, ensuring a clean flow for the subsequent treatment stages. Our solution boasts a solid, robust design precisely engineered to withstand demanding operation and harsh climates. What's more, it simplifies maintenance and servicing procedures, enhancing overall efficiency.



F Series

Shaft mounted gearbox and geared motor



BXN Series

Asynchronous reluctance motors



Agile Series

Smart inverter

BENEFITS

- High layout and mounting position flexibility
- Easy installation
- Energy Saving
- Cost Effective

- High dynamics
- Reduced total cost of ownership (TCO)
- Reliability and Robustness
- Space savings

- Smooth start
- Fine speed regulation for optimal control
- Energy saving function: current consumption redirection during start phase

FEATURES

- Shaft mounting
- Torque arm
- High Efficiency
- Shrink disc shaft coupling

- Power range: 0.37 to 11 kW
- Low rotor inertia
- Low heat dissipation
- High speed range: 0 to 3,000 rpm (max)
- High torque at zero speed

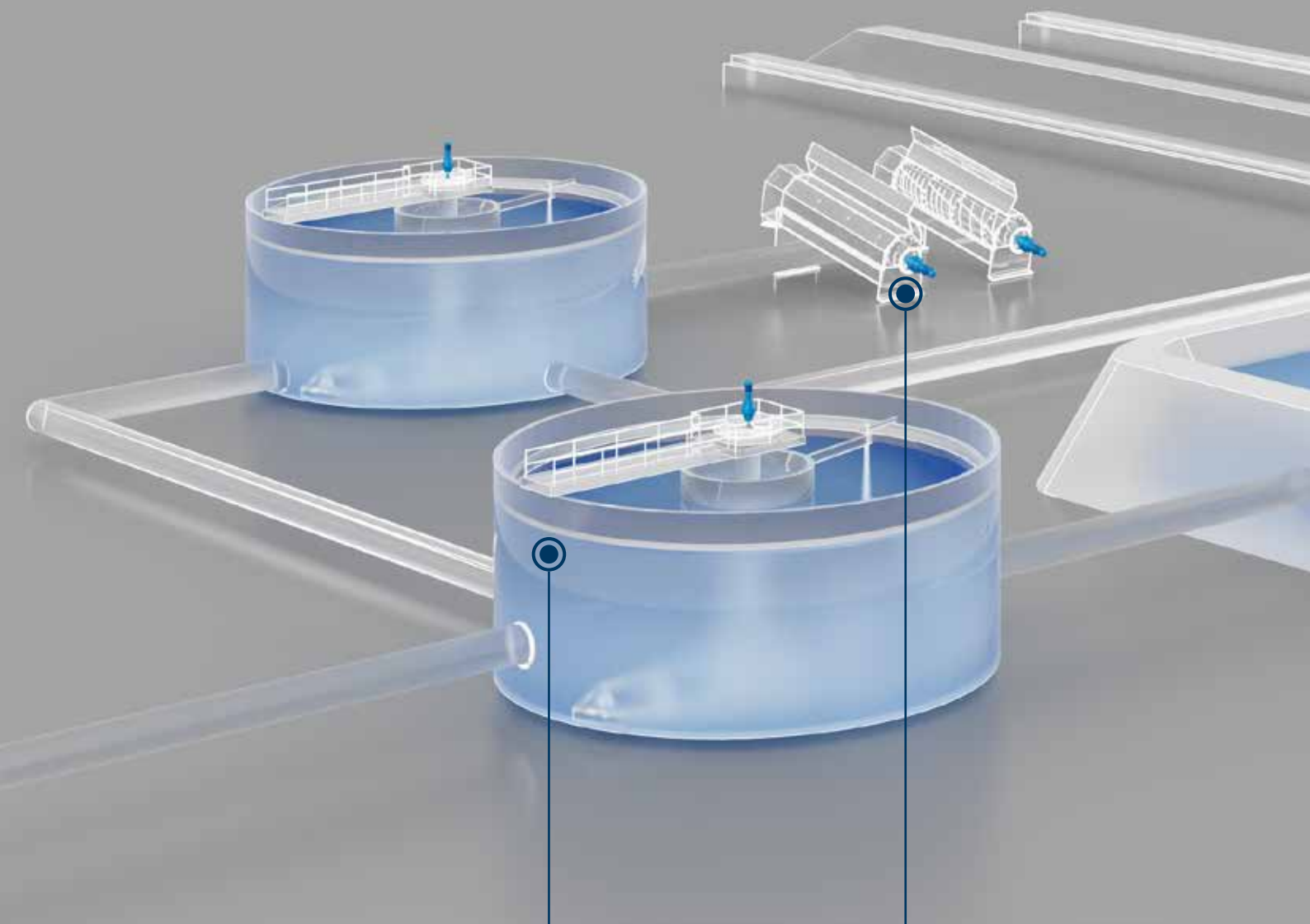
- Vector control
- Modbus and Systembus on board
- DC link connection
- Integrated brake chopper
- Power failure control
- Programmable PI Controller
- Integrated VPLC
- Integrated safe torque off STO (SIL 2 / PL d) function
- Energy Saving function

OPTIONS

- Motor anticondensate heaters and tropicalized windings
- Protection Degree up to IP 56, C4 or C5 surface protection according to ISO 12944-2
- Energy certified motors compliant with most MEPS (Minimum Efficiency Performance Standards)
- Fluoroelastomer and double lip seals.

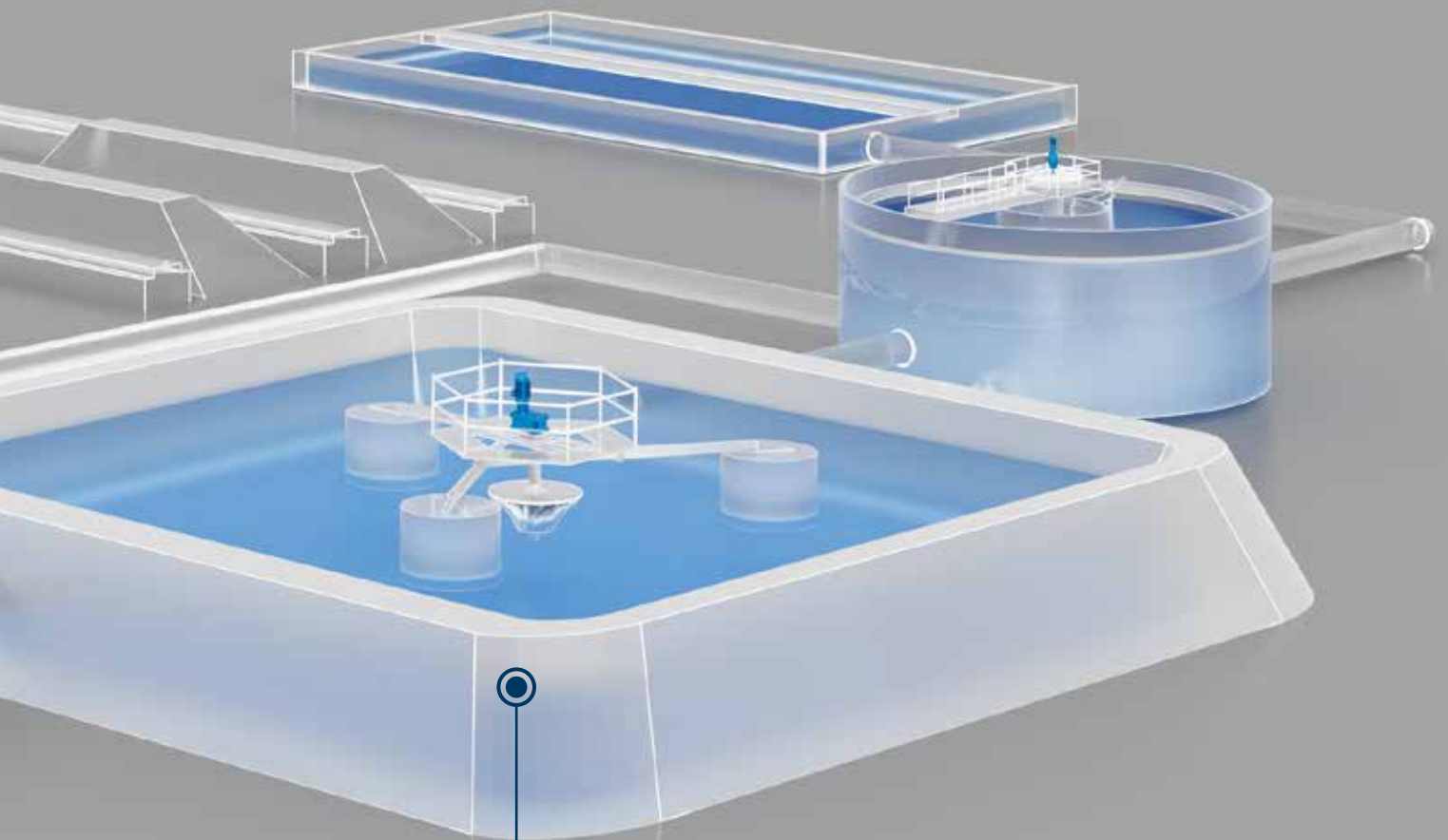


Solutions for
WASTEWATER TREATMENT

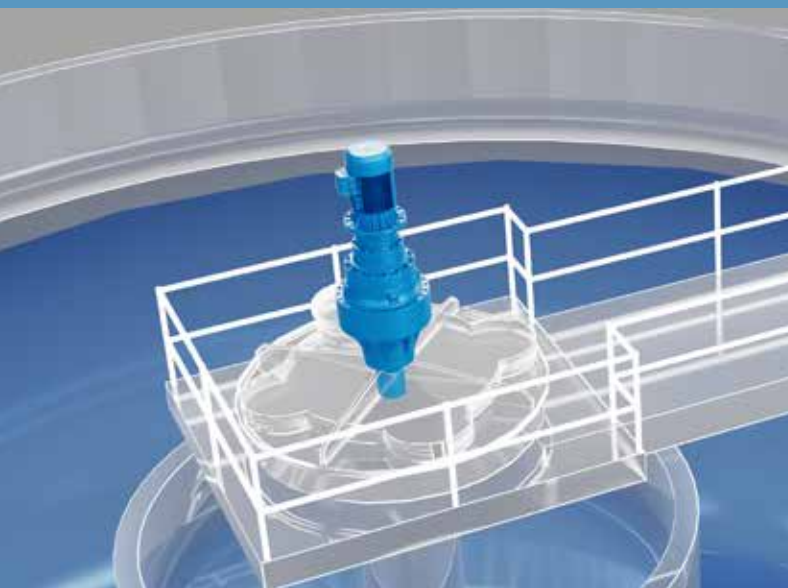


1 CLARIFIER

2 SCREW PRESS



3 AERATOR

**1****CLARIFIER**

In the latter phase of treatment, water is clarified using various methods, like applying coagulants and flocculants to facilitate the aggregation of fine particles, settling tanks where gravity aids the separation of particles, or mechanical devices that physically remove impurities from the water. This stage typically demands an aggressive environment, high torque, and low speed. Our solution and products are meticulously crafted to meet the precise technical specifications of the clarifier. Torque control protects against system failures caused by blade overload, ensuring smooth operation.

**300M Series**

Planetary gearbox and geared motor

BENEFITS

- High shock load capacity
- Compact
- Extended lifetime & reliability

FEATURES

- Integrated torque limiter (Combined solution with VF/W)
- Increased bearing load capability
- Integrated load cell
- Modular design
- Shock load up to 2,000,000 Nm
- Oil expansion tank & oil level switch

OPTIONS

- Motor anticondensate heaters and tropicalized windings
- Protection Degree up to IP 56, C4 or C5 surface protection according to ISO 12944-2
- Energy certified motors compliant with most MEPS (Minimum Efficiency Performance Standards)
- Fluoroelastomer and double lip seals.

**Active Cube Series**

Premium inverter

- Multi-drive synchronization & torque control
- Drive Control is highly customizable
- Extremely compact

- Power range: 0.25 to 400 kW (parallel connection: up to 1200 kW)
- Electric shaft with master/slave configuration (Systembus)
- Master & slave control & communication protocol
- PLC with integrated functionality
- Optional: Water cooling, IP 54 cabinet

2

SCREW PRESS

The process of separating liquid from solid usually involves pressing sludge or slurry, followed by the separation of water and solids. The pressing is often performed using a press with a rotating screw housed in a cylindrical or conical structure. As the screw rotates, it compresses the sludge, expelling water through press apertures while retaining the dewatered solids.

This operation often means high specific axial loads have to be handled, which is why our extensive product range offers a variety of technologies and solutions to ensure robust, reliable performance. The modular design of the 300 M series aligns seamlessly with the required screw speed, promoting efficient operation.



300M Series

Planetary gearbox and geared motor

BENEFITS

- Easy to install
- High axial and radial load capacity
- High torque output
- Compact
- Highly flexible

FEATURES

- Wide Torque & Ratio Range
- Wide range of possible mounting configurations
- Wide range of accessories (shrink disk output flange...)
- High-performance output bearings
- Torque arm
- High torque density
- Modular: Ratio group set can be changed separately

OPTIONS

- Motor anticondensate heaters and tropicalized windings
- Protection Degree up to IP 56, C4 or C5 surface protection according to ISO 12944-2
- Energy certified motors compliant with most MEPS (Minimum Efficiency Performance Standards)
- Fluoroelastomer and double lip seals.

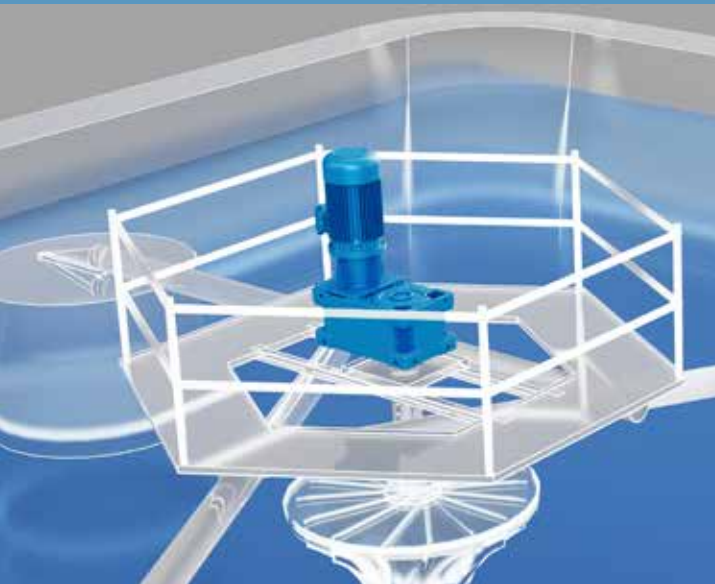


Active Cube Series

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**3****AERATOR**

Aerator, mixer, and agitator devices are specifically engineered to introduce air or other gases into liquids, aiding processes like oxygenation or other chemical reactions. This is achieved through rotating systems, like paddle or shaft agitators, which generate fluid movement and produce bubbles.

Our products and solutions are meticulously designed to meet the rigorous demands of these applications. Their capabilities can withstand high radial loads, ensure mechanical separation between the lubrication chamber and output, regulate speed effectively, and thrive in aggressive atmospheres. Remote control and preventive maintenance solutions are available as extra options, ensuring seamless integration with the primary requirements for the application.

**HDP Series**

Heavy duty geared motor (Helical-Parallel)

BENEFITS

- Direct and reliable coupling with aerator impeller
- High power output
- Minimized oil contamination risk
- High reliability
- Long oil service interval

FEATURES

- Reinforced bearing and extended span on output shaft
- Wide range of cooling options
- Drywell
- Special breathers
- 14 gearbox sizes
- Modular design

OPTIONS

- Motor anticondensate heaters and tropicalized windings
- Protection Degree up to IP 56, C4 or C5 surface protection according to ISO 12944-2
- Energy certified motors compliant with most MEPS (Minimum Efficiency Performance Standards)
- Fluoroelastomer and double lip seals.

**Active Cube Series**

Premium inverter

- Multi-drive synchronization & torque control
- Drive Control is highly customizable
- Extremely compact

- Power range: 0.25 to 400 kW (parallel connection: up to 1200 kW)
- Electric shaft with master/slave configuration (Systembus)
- Master & slave control & communication protocol
- PLC with integrated functionality
- Optional: Water cooling, IP 54 cabinet

SECONDARY/WASTEWATER & SLUDGE TREATMENT





GEARBOXES & GEARED MOTORS

HEAVY DUTY

Heavy duty parallel/right angle shaft geared motors HDP/HDO Series

- Torque range: 5,190 to 210,000 Nm
- Gear ratios: 5.6 to 500

Planetary geared motors | 300 Series

- Torque range: 1,250 to 1,287,000 Nm
- Gear ratios: 3.4 ... 2,916

LIGHT DUTY

Worm geared motors | W/VF Series

- Torque range: 13 to 7,100 Nm
- Gear ratios: 5.6 to 500

Helical geared motors | C Series

- Torque range: 45 to 12,000 Nm
- Gear ratios: 5.6 to 500

Bevel-helical geared motors | A Series

- Torque range: 100 to 14,000 Nm
- Gear ratios: 5.6 to 500

Shaft-mounted geared motors | F Series

- Torque range: 140 to 14,000 Nm
- Gear ratios: 5.6 to 500

MOTORS

Asynchronous IEC motors | BN, BE, BX Series

Asynchronous compact motors | MN, ME, MX series

A complete range of AC motors, meeting worldwide MEPS (e.g. IE3)

- Power range: 0.06 to 355 kW
- Poles: from 2 to 8

IE1 IE2 IE3

Asynchronous IEC motors | eVOX BXN Series

Asynchronous compact motors | eVOX MXN Series

A complete range of AC motors, meeting worldwide MEPS (e.g. IE3)

- Power range: 0.06 to 355 kW
- Poles: from 2 to 8

IE1 IE2 IE3



INVERTERS

HEAVY DUTY

Cabinet solution | **Active Cube 8 IP54**

- **Power range:** 200 up to 1,200 kW
- **Voltage:** 400 V, 525 V, 690 V

Premium inverter | **Active Cube Series**

- **ACU210:** 0.25 - 9.2 kW / 1- or 3-phase
- **ACU410*:** 0.25 - 400 kW / 3-phase
- **ACU510*:** 160 - 400 kW / 3-phase
- **ACU610*:** 0.25 - 400 kW / 3-phase

LIGHT DUTY

Premium inverter | **Active Cube Series**

- **ACU210:** 0.25 - 9.2 kW / 1- or 3-phase
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- **ACU510*:** 160 - 400 kW / 3-phase
- **ACU610*:** 0.25 - 400 kW / 3-phase

Smart inverter | **Agile Series**

- **AGL202:** 0.12 - 3 kW / 1-phase | 0.25 - 7.5 kW / 3-phase
- **AGL402:** 0.25 - 11 kW / 3-phase

* up to 1200 kW with parallel connection

OUR STRIVING FOR THE FUTURE

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** to accelerate the validation process. This reduces time to market and provides customers with optimized, 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 truly tailor-made solution.



OUR CONSTANT AMBITION

QUALITY, HEALTH, SAFETY, ENVIRONMENT & ENERGY

QUALITY: WE CARE ABOUT OUR CUSTOMERS

Our team is completely dedicated to continuous improvement in the areas of quality, safety, environmental and energy, 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 in our company's sustainability strategy and an integral part of every one of our business processes. Successful risk management 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 adopting environmental protection and energy efficiency policies are essential if we are to enjoy a better future.

OUR GLOBAL PRESENCE

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.

HEADQUARTERS

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