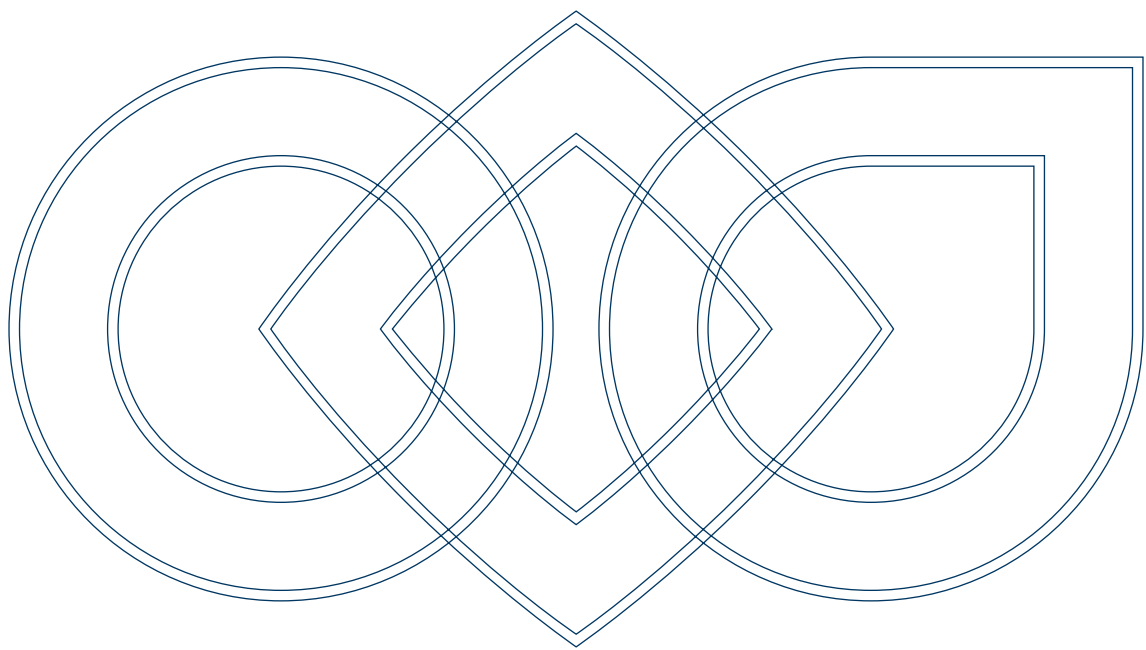


Bonfiglioli *Forever Forward*

Solutions for the
Water Treatment



SECTOR



EFFICIENT AND COMPACT SOLUTIONS FOR WATER TREATMENT

From desalination to purification, the water & wastewater sector is complex and requires reliable solutions to ensure the uninterrupted flow of operations.

With a full portfolio of automation products, Bonfiglioli is able to offer efficient solutions for any kind of application in support of wastewater treatment plants. Easy maintenance, adaptability, compactness and high torque values are other fundamental features required for water and wastewater processes.

Perfect control of the drive speed, the water flow and pressure are key elements allowing us to supply our customers with energy saving solutions for the pumps, conveyors and filters typically used in this sector.

BONFIGLIOLI HAS ALL THE EXPERIENCE NEEDED TO SUPPORT THE FOLLOWING WATER TREATMENT PROCESSES:



Water Screening process

Page 4 to 7



Wastewater & Sludge treatment

Page 8 to 11

PRE-SALES & AFTER SALES SERVICES:



Pre-Sales support and co-engineering
(gears and bearings lifetime calculation according to required standards, load verifications etc.)



Tailored service and warranty plans



Tailored solution as per Customer needs
(special output shaft design and auxiliary devices like brakes, couplings etc.)

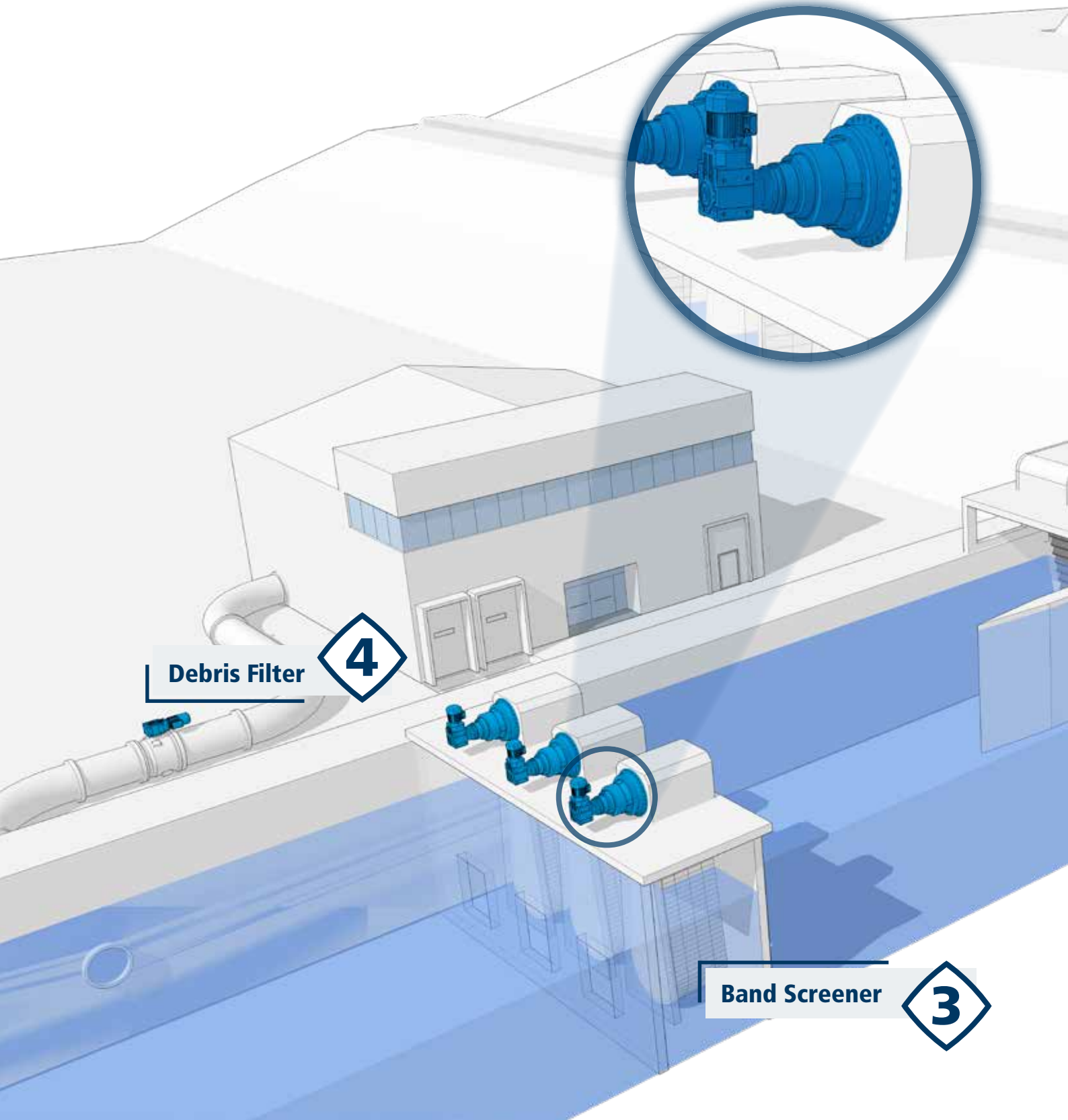


DISCOVER ALL PROCESSES OF THE WATER & WASTEWATER INDUSTRY:

- Water-Gate
 - Flap Gate
 - Flum Gate
 - Roller Gate
- Trash Rake
 - Rack and pinion Trash Rake
 - Chain Trash Rake
 - Cable Trash Rake
- Band Screener
- Debris Filter
- Thickener & Clarifier
- Anaerobic Digester
- Screw Press
- Aerator
 - Vertical low speed Aerator
 - Paddle Aerator

EXAMPLES OF SOLUTIONS WE OFFER

WATER SCREENING PROCESS

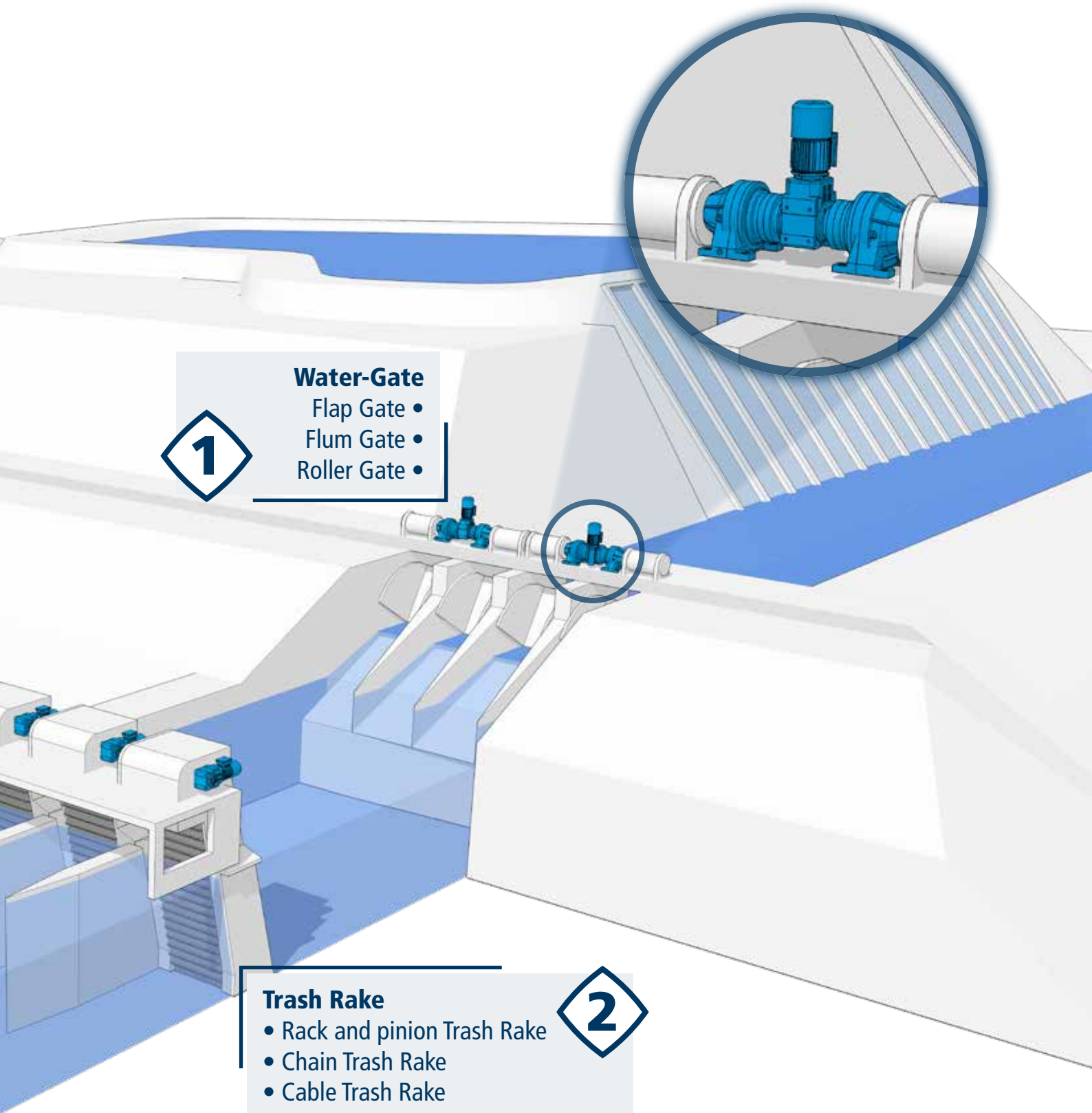


Debris Filter

4

Band Screener

3



1

Water-Gate

- Flap Gate
- Flum Gate
- Roller Gate

2

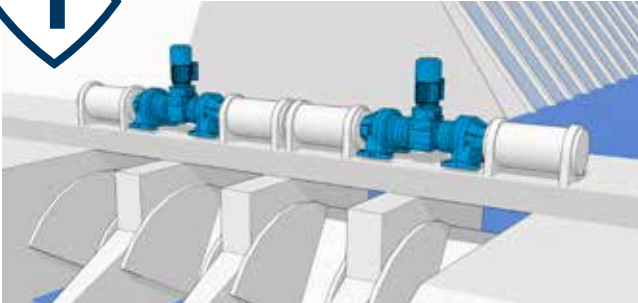
Trash Rake

- Rack and pinion Trash Rake
- Chain Trash Rake
- Cable Trash Rake

EXAMPLES OF SOLUTIONS WE OFFER

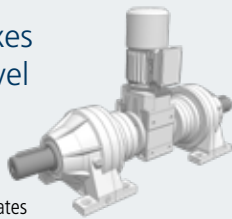
WATER SCREENING PROCESS

1



Water Gate **Solutions**

3/A/3 - Planetary gearboxes combined with helical bevel geared motor



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

FEATURES

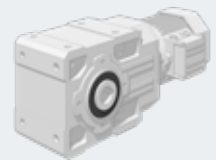
- Nominal Torque up to 1300 kNm
- Wide ratio range (300+combined)
- Modular design
- High radial load capability on output shaft

2



Trash Rake **Solutions**

A - Helical bevel geared motor



BENEFITS

- Effective use of space
- Easy maintenance
- Mounting flexibility

FEATURES

- Right angle layout
- Wide torque range
- Oil expansion tank (TBV)
- Several output options

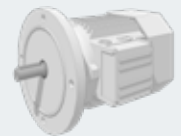
BSR - Synchronous Reluctance Motors

BENEFITS

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

FEATURES

- Power range: 0.37 to 18.5 kW
- IE4 Efficiency class or High output
- Low rotor inertia
- Low heat dissipation
- High speed range: 0 to 4500 rpm (max)
- High torque at zero speed



Active Cube - Premium Inverter

BENEFITS

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

FEATURES

- 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



GEARBOXES & GEARED MOTORS OPTIONS:

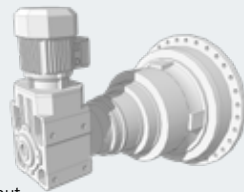
Motor anticondensate heaters and tropicalized windings, Protection Degree up to IP 56, C4 or C5 surface protection according to ISO 12944-2, Energy certified motors compliant to most MEPS (Minimum Efficiency Performance Standards), Fluoroelastomer and double lip seals.

3



Band Screener **Solutions**

3/A - Planetary gearbox combined with Helical bevel geared motor



BENEFITS

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

FEATURES

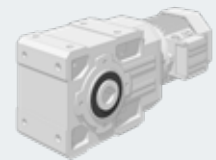
- Backstop device
- Planetary and helical bevel gear technology
- Shaft mounting
- Rain Canopy

4



Debris Filter **Solutions**

A - Helical bevel geared motor



BENEFITS

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

FEATURES

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

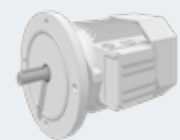
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Active Cube - Premium Inverter

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- Drive Control is highly customizable
- Extremely compact

FEATURES

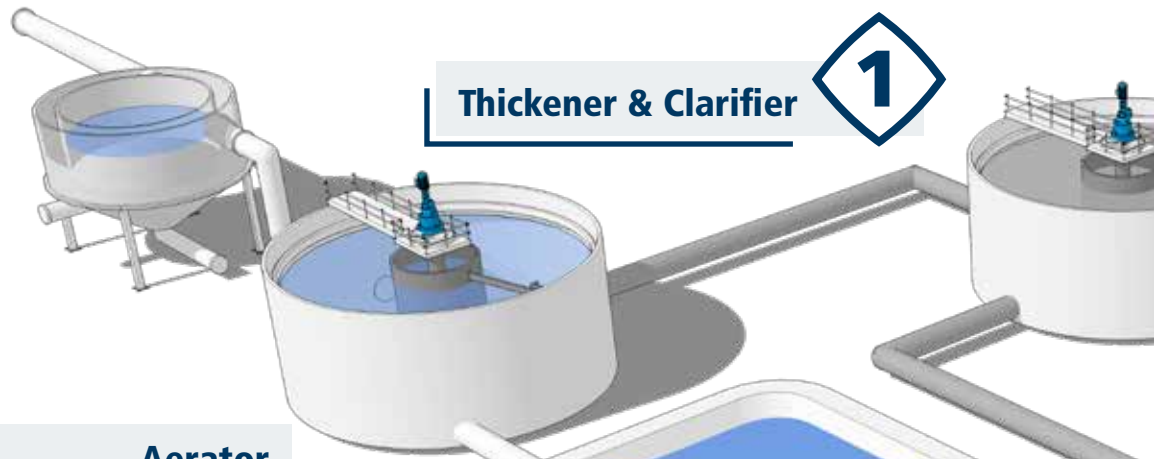
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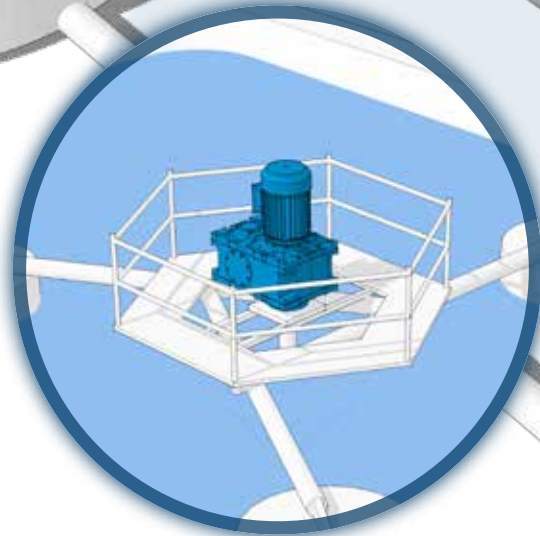
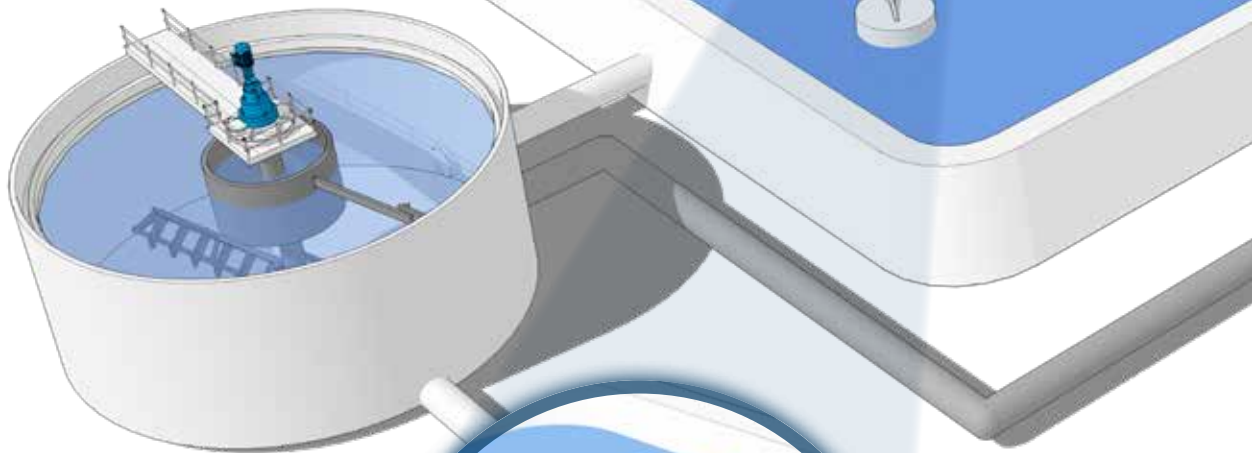
Motor anticondensate heaters and tropicalized windings, Protection Degree up to IP 56, C4 or C5 surface protection according to ISO 12944-2, Energy certified motors compliant to most MEPS (Minimum Efficiency Performance Standards), Fluoroelastomer and double lip seals.

EXAMPLES OF SOLUTIONS WE OFFER WASTEWATER & SLUDGE TREATMENT



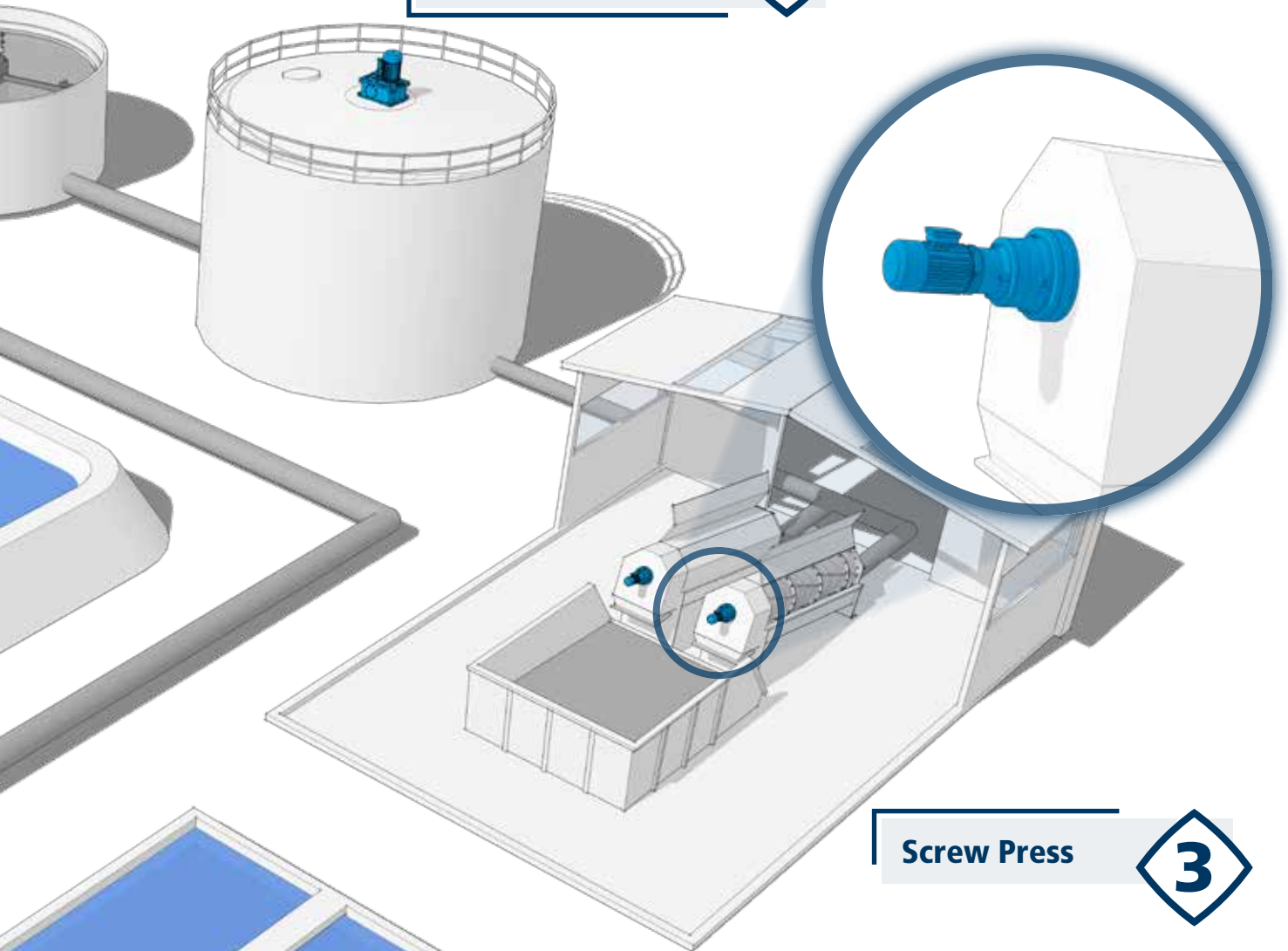
Thickener & Clarifier **1**

4 **Aerator**
Vertical low speed Aerator •
Paddle Aerator •



Anaerobic Digester

2



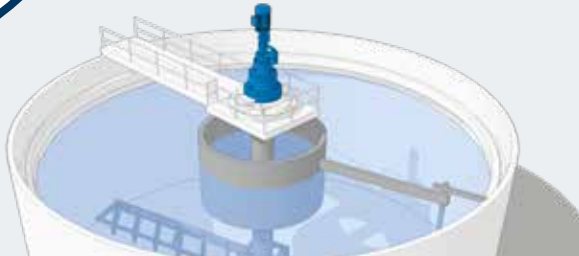
Screw Press

3

EXAMPLES OF SOLUTIONS WE OFFER

WASTEWATER & SLUDGE TREATMENT

1



Thickener & Clarifier **Solutions**

300M - Planetary gearbox and geared motor

BENEFITS

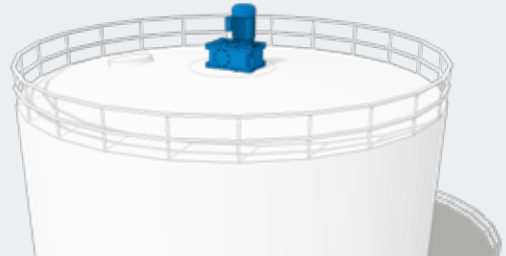
- Prevents system failures due to blade overloads
- High shock load capacity
- Compact
- Extended lifetime & reliability
- Torque control

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



2



Anaerobic Digester **Solutions**

F - Shaft mounted geared motor

BENEFITS

- High flexibility
- Reliable operation in tilted positions
- Easy to match the required output speed
- Safe operation in explosive environments
- No external devices needed
- No oil service required

FEATURES

- Non-standard mounting positions possible
- High ratios availability
- ATEX compliant product line (per Directive 2014/34/EU)
- Integrated torque arm
- Heater and tropicalized wiring
- Anti-condensation drain
- Small, lifetime-sealed units



Active Cube - Premium Inverter

BENEFITS

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

FEATURES

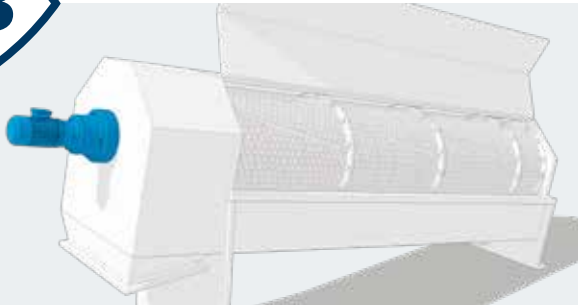
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- Electric shaft with master/slave configuration (Systembus)
- Master & slave control & communication protocol
- PLC with integrated functionality
- Optional: Water cooling, IP 54 cabinet



GEARBOXES & GEARED MOTORS 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 to most MEPS (Minimum Efficiency Performance Standards), Fluoroelastomer and double lip seals.

3



Screw Press **Solutions**

300M - Planetary gearbox and geared motor

BENEFITS

- Simple to match the required screw speed
- 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



4



Aerator **Solutions**

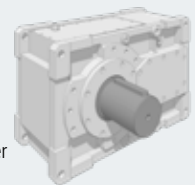
HDP - Heavy duty geared motor (Helical-Parallel)

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



Active Cube - Premium Inverter

BENEFITS

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

FEATURES

- Power range: 0.25 to 400 kW (parallel connection: up to 1200 kW)
- Electric shaft with master/slave configuration (Systembus)
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COMPLETE SOLUTIONS FOR POWER TRANSMISSION AND AUTOMATION



HEAVY DUTY

Gearboxes and geared Motors

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

Torque range: 5,000 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 to 5 234



Motors

Asynchronous IEC Motor - BN, BE, BX

Asynchronous Compact Motors - MN, ME, MX

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

IE3

Power range: 0.06 to 355 kW

Poles: from 2 to 8 and multiple poles

LIGHT DUTY

Worm geared motors - W/VF Series

Torque range: 13 to 7,100 Nm

Gear ratios: 7 to 10,000

Helical geared motors - C Series

Torque range: 45 to 12,000 Nm

Gear ratios: 2.6 to 1 481

Bevel-helical geared motors - A Series

Torque range: 100 to 14,000 Nm

Gear ratios: 5.4 to 1 715

Shaft-mounted geared motors - F Series

Torque range: 140 to 14,000 Nm

Gear ratios: 6.4 to 2 099



Asynchronous motors - BN, BE, BX, M, ME, MX Series

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

IE3

Power range: 0.06 to 355 kW

Poles: from 2 to 8 and multiple poles

Synchronous motors - BMD Series

Stall Torque: 0.2 to 115 Nm

Rated speed: from 1,600 to 6,000 min⁻¹

Power supply: 230, 400 VAC

Synchronous reluctance motor - BSR Series

Two different versions for different requirements:

High efficiency IE4 and high output

IE4

Power range: 0.37 to 18.5 kW

SERVO

Precision planetary servo geared motors - TQ, TQK, TQF, TR, MP, LC, LCK, SL, KR Series

Torque range: up to 1,000 Nm

Gear ratios: up to 1,000

Backlash: lower than 2 and 15 arcmin



Synchronous motors - BMD, BCR Series

Stall Torque: 0.2 to 115 Nm

Rated speed: from 1,600 to 6,000 min⁻¹

Power supply: 230, 400 VAC

Synchronous motors with integrated drives - iBMD Series

Stall Torque: 2.7 to 36 Nm

Rated speed: 3,000 min⁻¹

Power supply: 560 VDC



Inverters

Cabinet solution - Active Cube 8 IP 54

Power range: 200 to 1,200 kW

Voltage: 400 V, 525V, 690V

Premium inverter - Active Cube Series

200V: 0.25 to 9.2 kW

400V: 0.25 to 400 kW

Premium inverter - Active Cube Series

200V: 0.25 to 9.2 kW

400V: 0.25 to 400 kW

Smart inverter - Agile Series

200V: 1 phase 0.12 to 3 kW / 3 phase 0.25 to 7.5 kW

400V: 0.25 to 11 kW

Compact inverter - S2U Series

200V: 0.2 – 2.2 kW

Servo inverter - ANG Series

200V: 1 or 3 phase 0.25 to 9.2 kW

400V: 0.25 to 400 kW

Premium inverter - Active Cube Series

200V: 0.25 to 9.2 kW

400V: 0.25 to 400 kW

Smart inverter - Agile Series

200V: 1 phase 0.12 to 3 kW / 3 phase 0.25 to 7.5 kW

400V: 0.25 to 11 kW

HMI

Human Machine Interfaces - BMI Series

2 Display sizes – 7" and 10"

True flat front panel, IP65

High resolution, 480x272 to 1024x600 pixels

Human Machine Interfaces - BMI Series

2 Display sizes – 7" and 10"

True flat front panel, IP65

High resolution, 480x272 to 1024x600 pixels

Human Machine Interfaces - BMI Series

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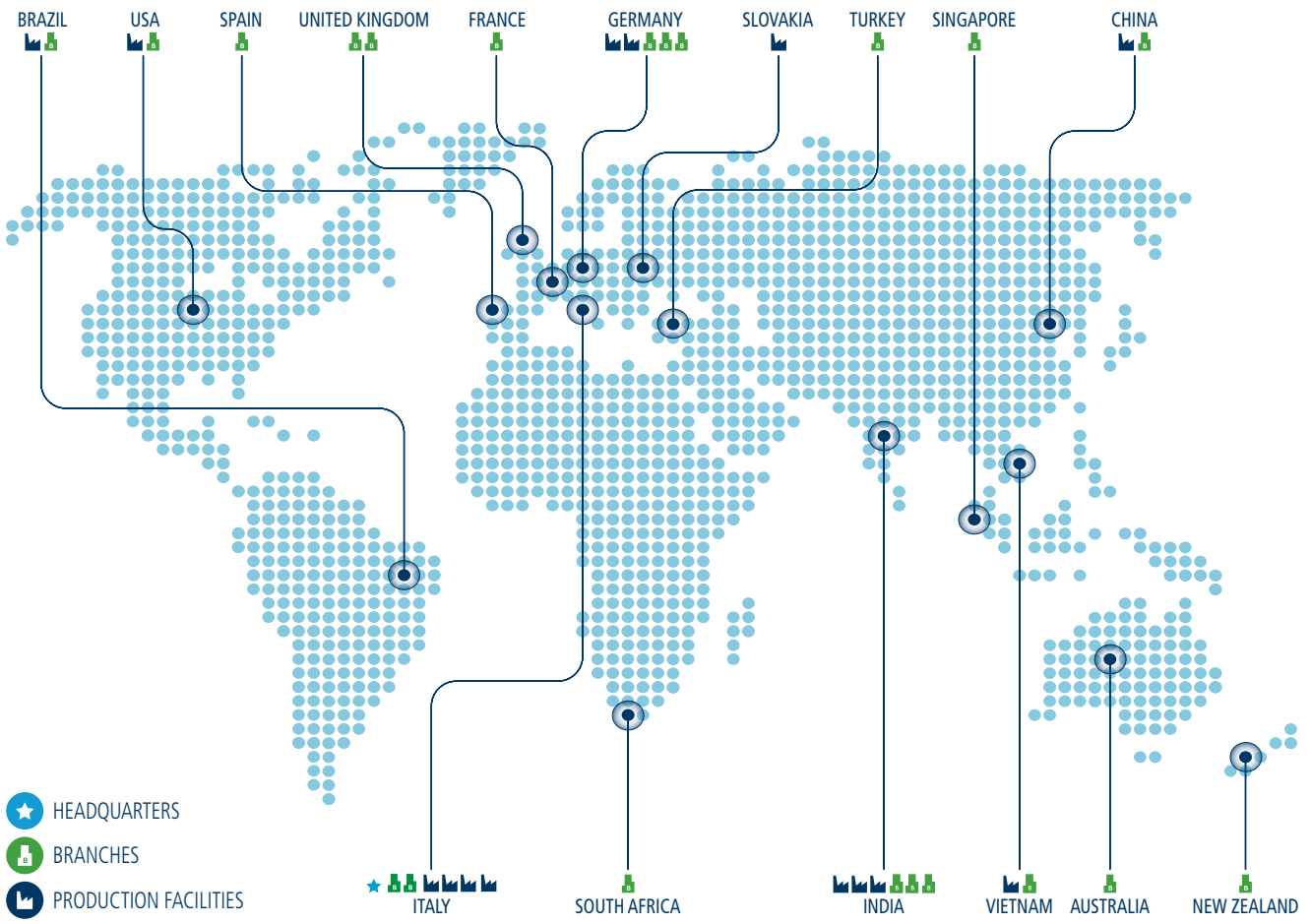
HEAVY DUTY

LIGHT DUTY

SERVO

Bonfiglioli worldwide presence

Bonfiglioli is located in regions and countries around the world that enable us to provide faster sales and service to customers.
We are around the world, and around the corner.



LOCAL SUPPORT
 Sales, Customer Service,
 Warranty, Tech support,
 Spare parts



**21 BRANCH OFFICES
 IN 15 COUNTRIES**



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 NETWORK**

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



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