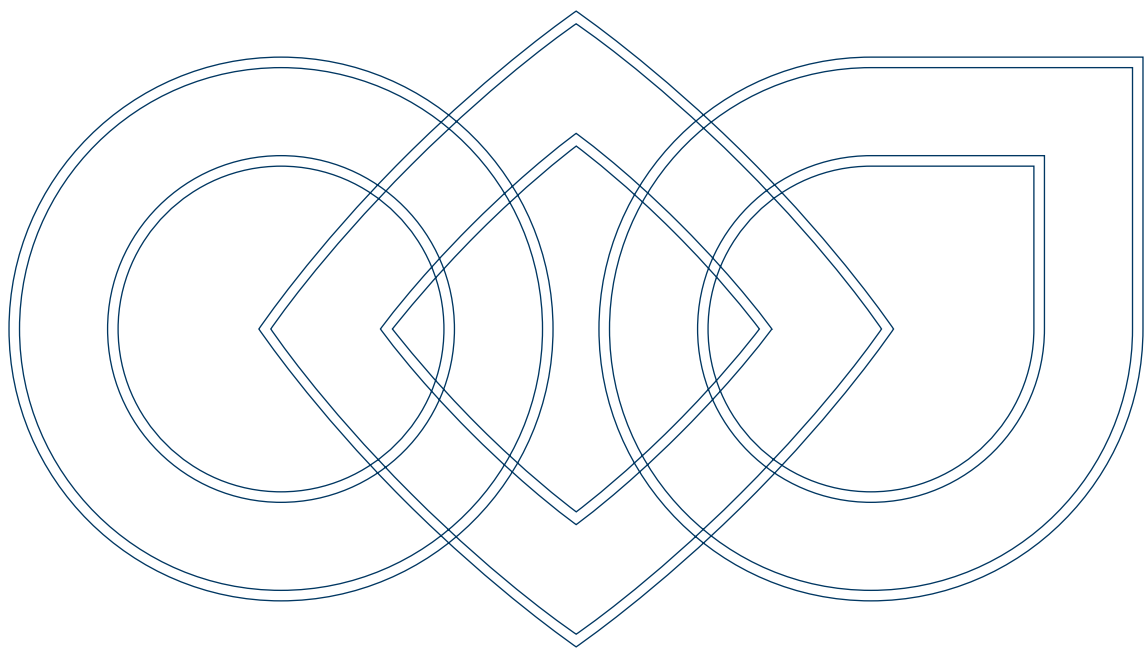


Solutions for
Water Treatment



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.)

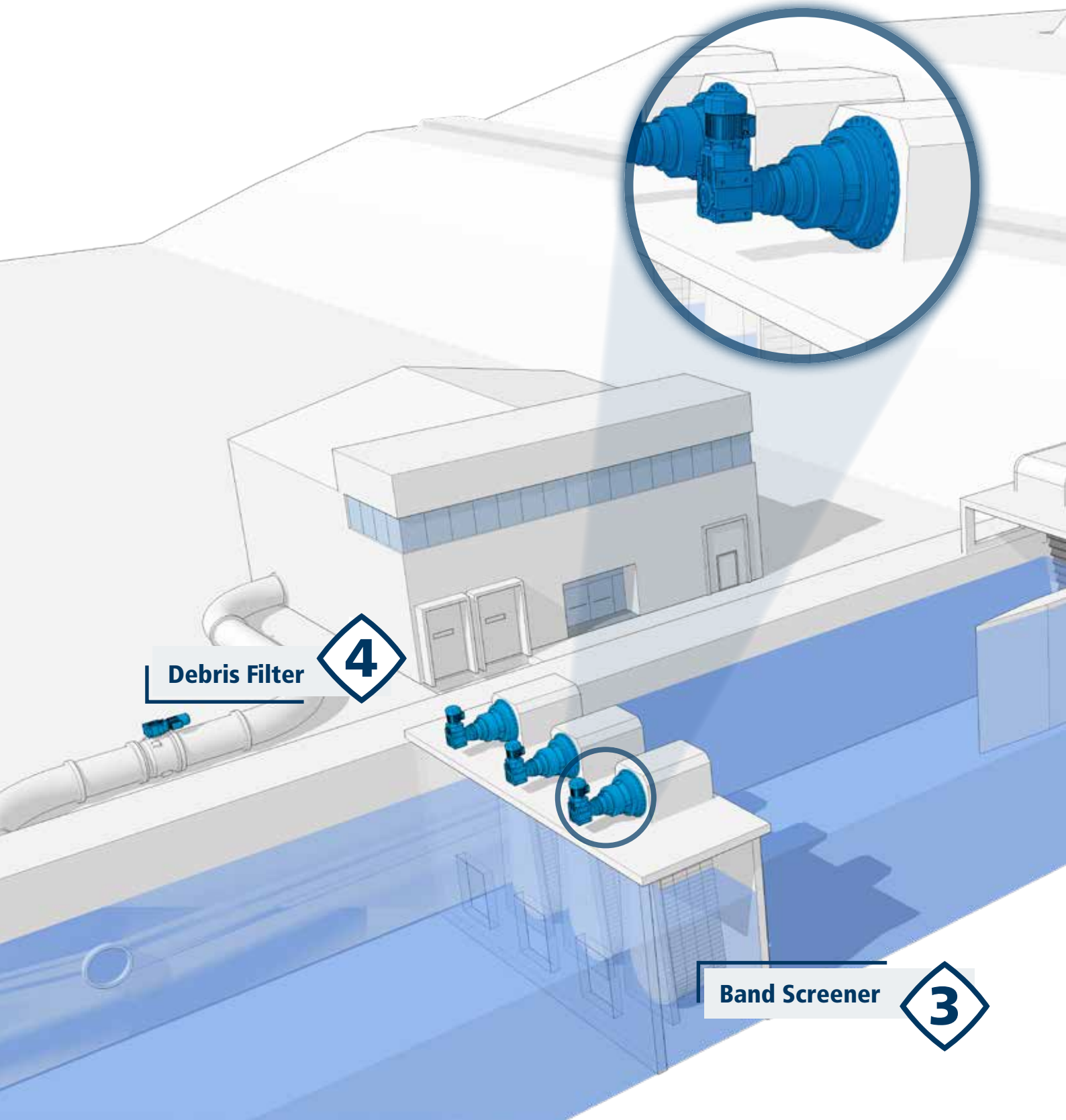


DISCOVER ALL PROCESSES OF THE WATER & WASTEWATER INDUSTRY:

- 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

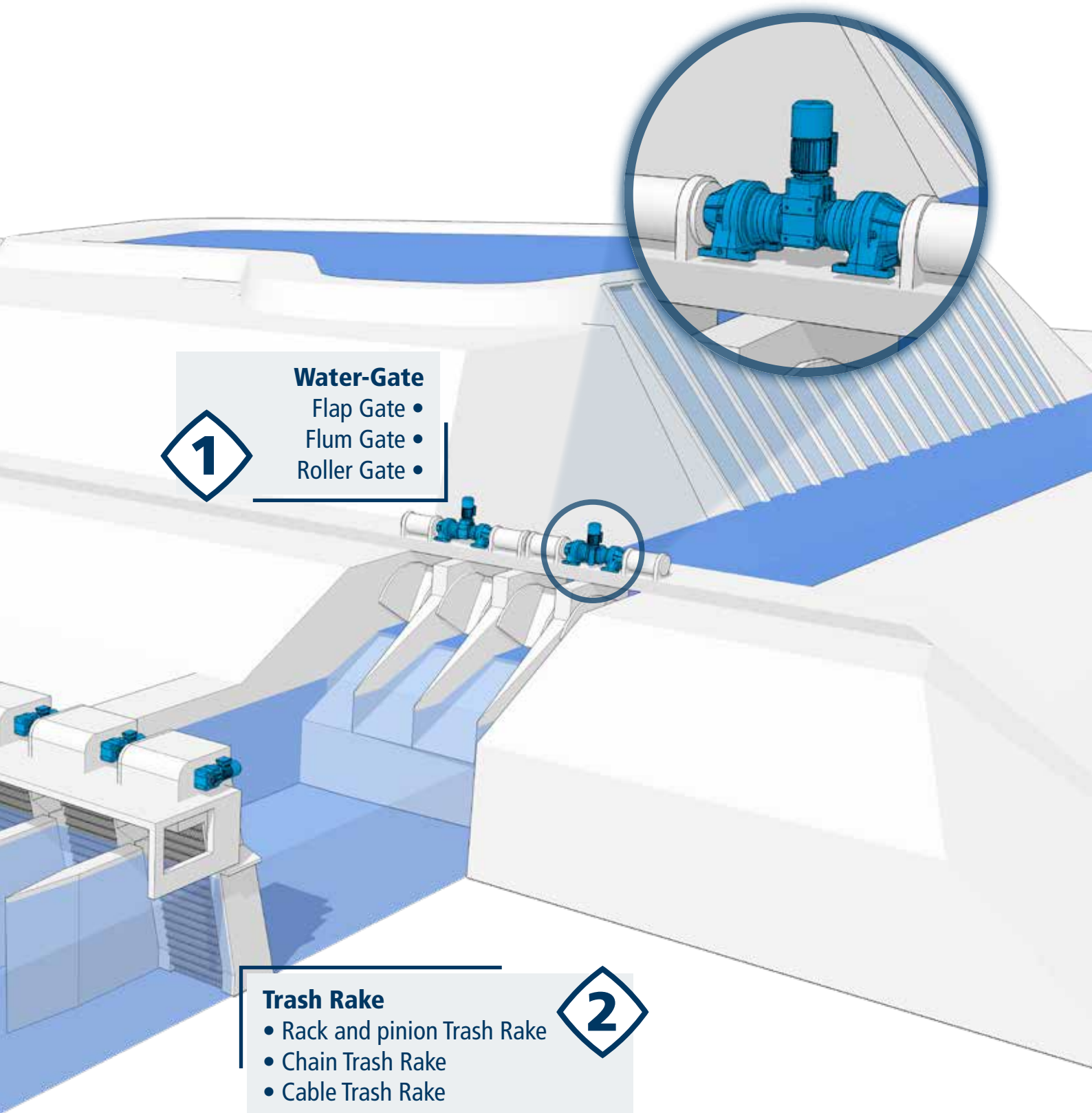


Debris Filter

4

Band Screener

3



1

Water-Gate

- Flap Gate
- Flum Gate
- Roller Gate

2

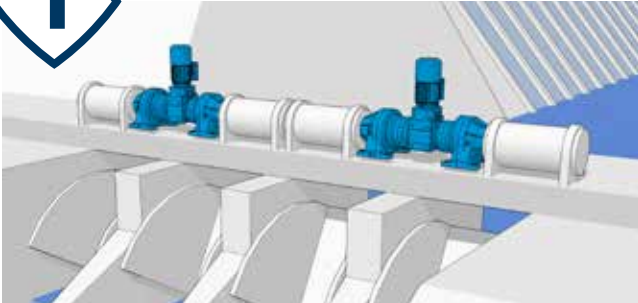
Trash Rake

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

EXAMPLES OF SOLUTIONS WE OFFER

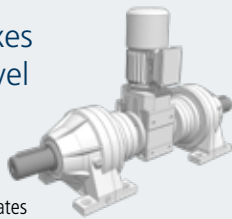
WATER SCREENING PROCESS

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

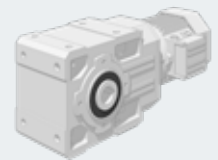
- Nominal Torque up to 1300 kNm
- Wide ratio range (300+combined)
- Modular design
- High radial load capability on output shaft

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

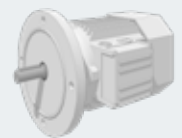
BSR - Synchronous Reluctance Motors

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:

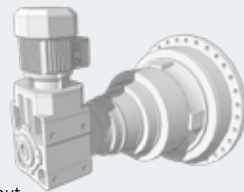
Motor anticondensate heaters and tropicalized windings, Protection Degree up to IP 56, C4 or C5 surface protection according to ISO 12944-2, Energy certified motors compliant to most MEPS (Minimum Efficiency Performance Standards), Fluoroelastomer and double lip seals.

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

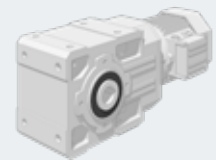
- Backstop device
- Planetary and helical bevel gear technology
- Shaft mounting
- Rain Canopy

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

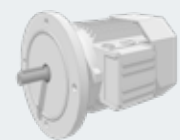
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Active Cube - Premium Inverter

BENEFITS

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- Drive Control is highly customizable
- Extremely compact

FEATURES

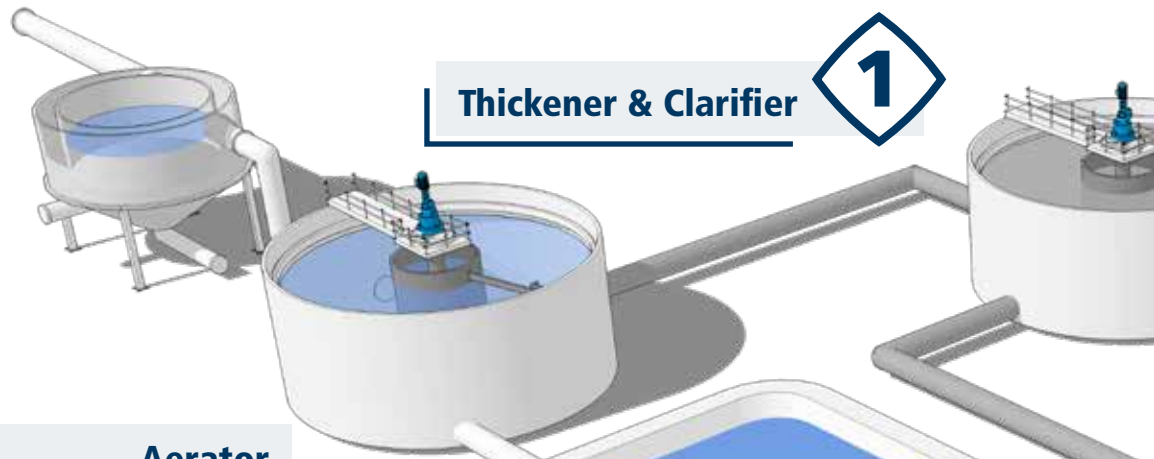
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- Master & slave control & communication protocol
- PLC with integrated functionality
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GEARBOXES & GEARED MOTORS OPTIONS:

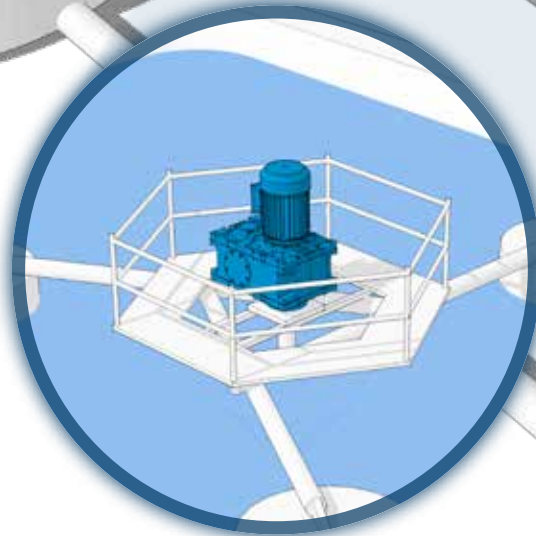
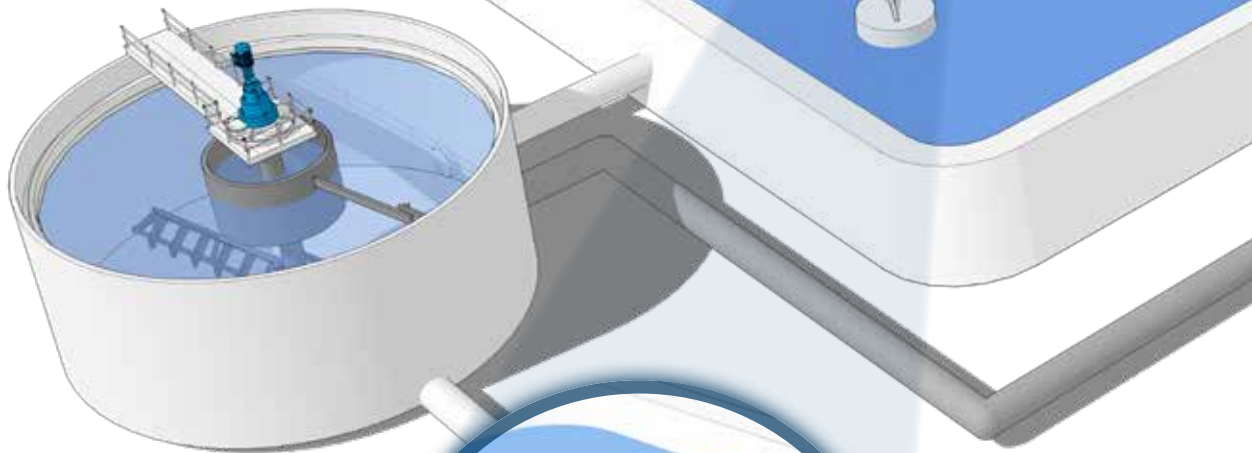
Motor anticondensate heaters and tropicalized windings, Protection Degree up to IP 56, C4 or C5 surface protection according to ISO 12944-2, Energy certified motors compliant to most MEPS (Minimum Efficiency Performance Standards), Fluoroelastomer and double lip seals.

EXAMPLES OF SOLUTIONS WE OFFER WASTEWATER & SLUDGE TREATMENT



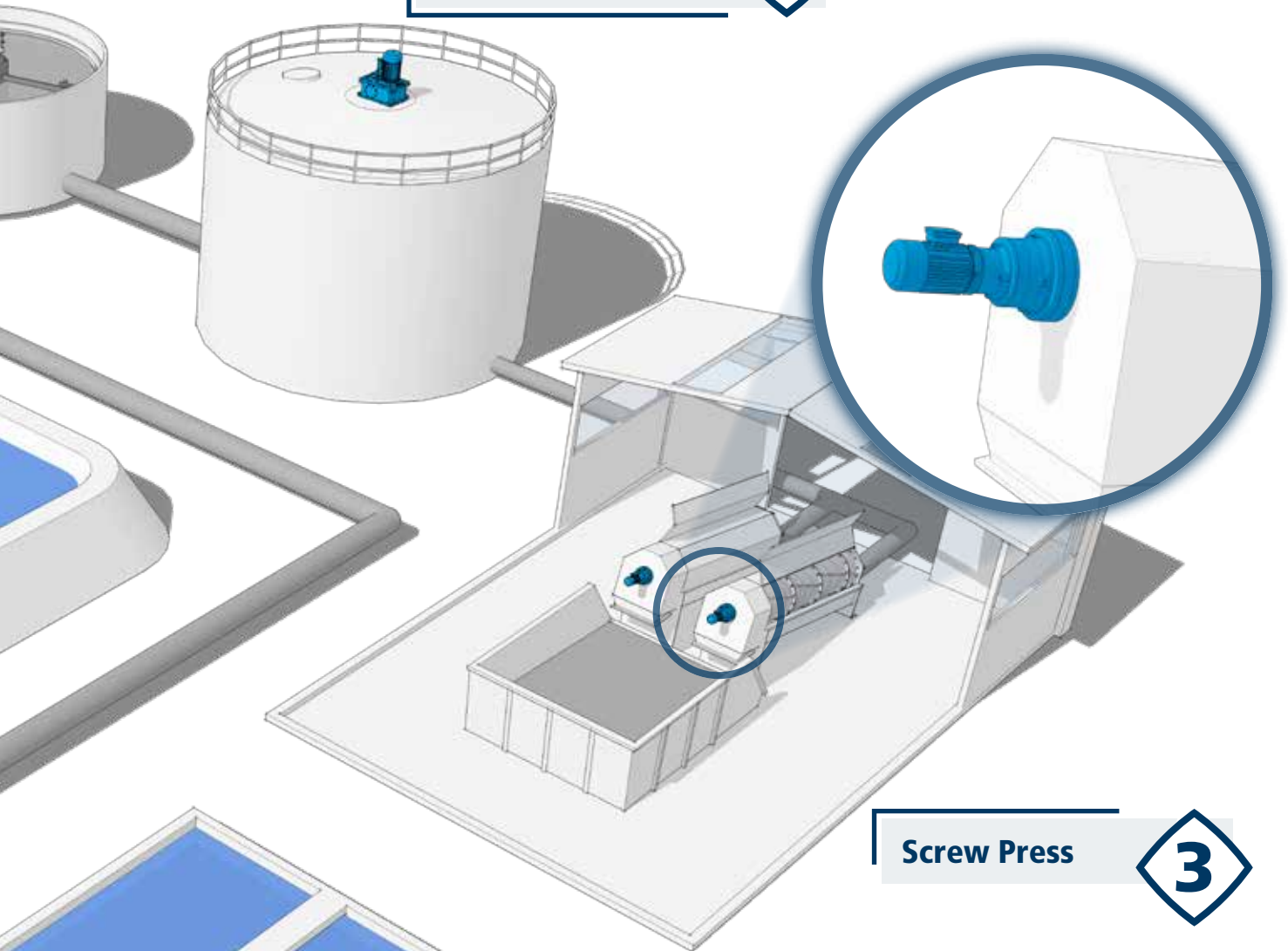
Thickener & Clarifier **1**

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



Anaerobic Digester

2



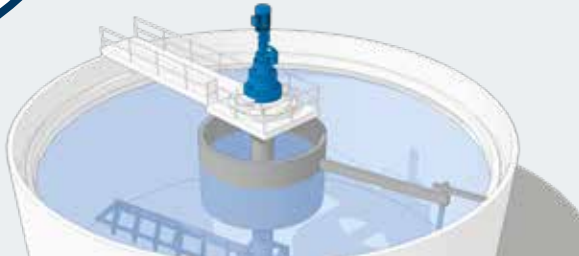
Screw Press

3

EXAMPLES OF SOLUTIONS WE OFFER

WASTEWATER & SLUDGE TREATMENT

1



Thickener & Clarifier **Solutions**

300M - Planetary gearbox and geared motor

BENEFITS

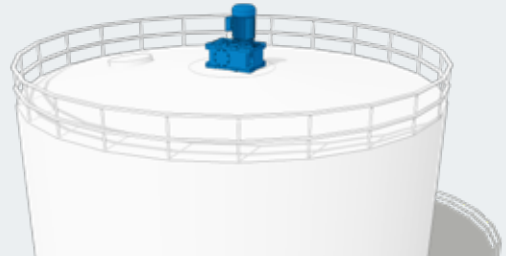
- Prevents system failures due to blade overloads
- High shock load capacity
- Compact
- Extended lifetime & reliability
- Torque control

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

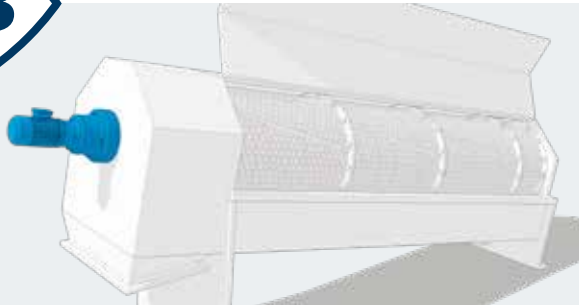
- Power range: 0.25 to 400 kW (parallel connection: up to 1200 kW)
- Electric shaft with master/slave configuration (Systembus)
- Master & slave control & communication protocol
- PLC with integrated functionality
- Optional: Water cooling, IP 54 cabinet



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



Screw Press **Solutions**

300M - Planetary gearbox and geared motor

BENEFITS

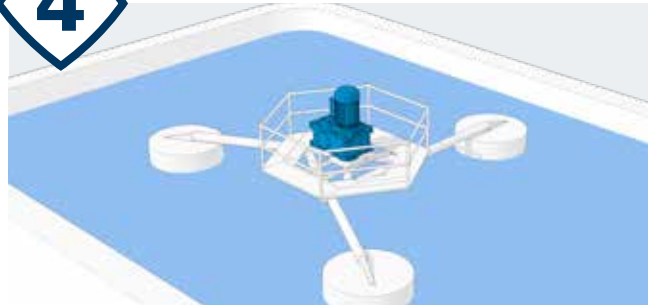
- Simple to match the required screw speed
- Easy to install
- High axial and radial load capacity
- High torque output
- Compact
- Highly flexible

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**

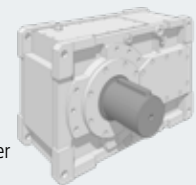
HDP - Heavy duty geared motor (Helical-Parallel)

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)
Power range: 0.06 to 355 kW
Poles: from 2 to 8 and multiple poles

IE3

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)
Power range: 0.06 to 355 kW
Poles: from 2 to 8 and multiple poles

IE3

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
Power range: 0.37 to 18.5 kW

IE4

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

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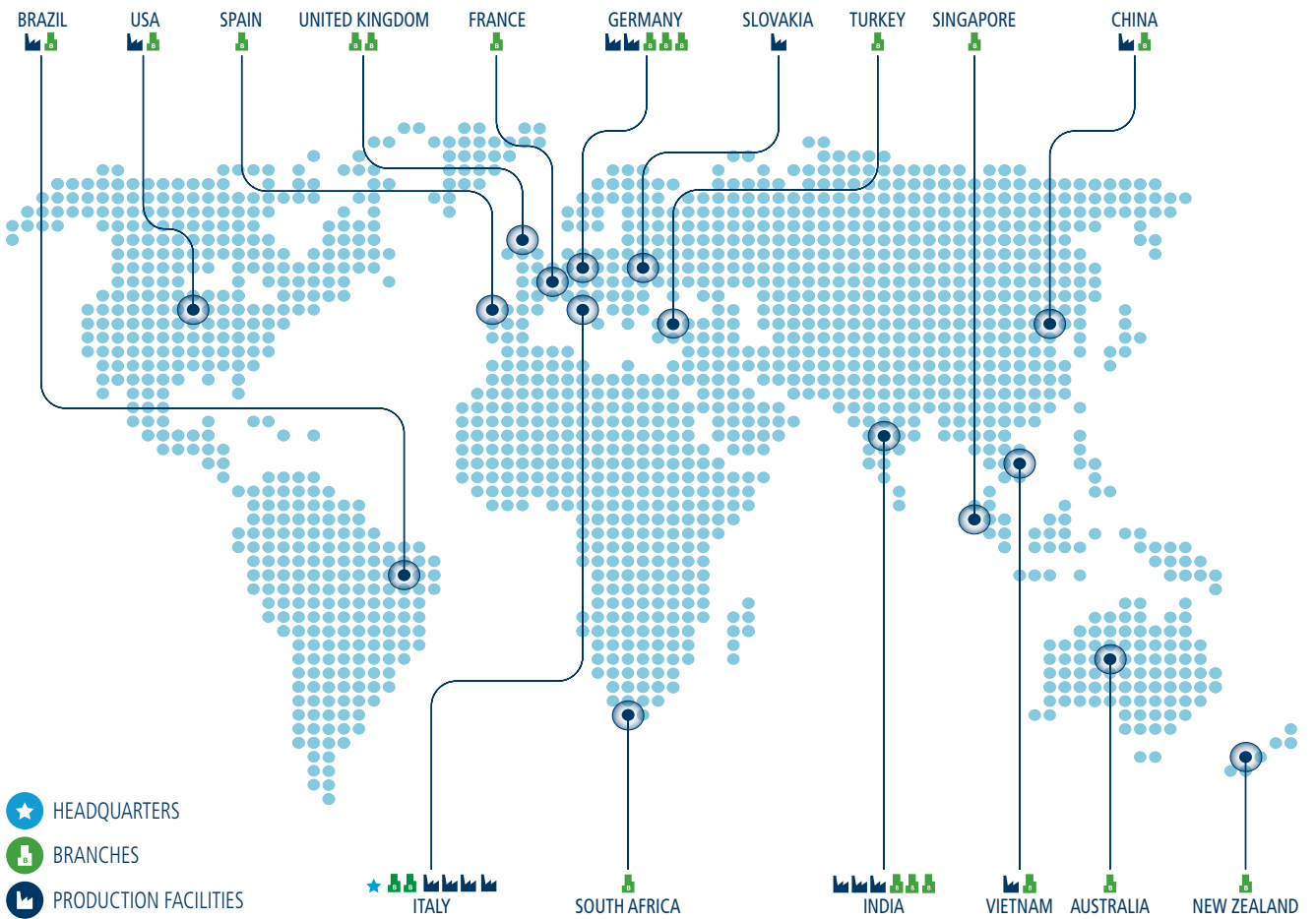
HEAVY DUTY

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**



**WORLDWIDE
 DISTRIBUTION
 NETWORK**

Bonfiglioli worldwide locations

Australia

www.bonfiglioli.com.au
2, Cox Place Glendenning NSW 2761
Locked Bag 1000 Plumpton NSW 2761
Tel. + 61 2 8811 8000

Brazil

www.bonfigliolidobrasil.com.br
Travessa Cláudio Armando 171
Bloco 3 - CEP 09861-730 - Bairro Assunção
São Bernardo do Campo - São Paulo
Tel. +55 11 4344 2322

China

www.bonfiglioli.cn
Bonfiglioli Drives (Shanghai) Co., Ltd.
#68, Hui-Lian Road, QingPu District,
201707 Shanghai
Tel. +86 21 6700 2000

France

www.bonfiglioli.fr
14 Rue Eugène Pottier
Zone Industrielle de Moimont II - 95670 Marly la Ville
Tel. +33 1 34474510

Germany

www.bonfiglioli.de
Bonfiglioli Deutschland GmbH
Sperberweg 12 - 41468 Neuss
Tel. +49 0 2131 2988 0
Bonfiglioli Vectron MDS GmbH
Europark Fichtenhain B6 - 47807 Krefeld
Tel. +49 0 2151 8396 0
O&K Antriebstechnik
Ruhrallee 8-12 - 45525 Hattingen
Tel. +49 0 2324 2050 1

India

www.bonfiglioli.in
Mobile, Wind
Bonfiglioli Transmissions Pvt. Ltd.
Plot No. AC7-AC11, SIDCO Industrial Estate,
Thirumudivakkam - 600 044 Chennai
Tel. +91 44 2478 1035
Industrial
Survey No. 528, Porambakkam High Road,
Mannur Village, Sriperambudur Taluk - 602 105 Chennai
Tel. +91 44 6710 3800
Plot No. A-95, Phase IV, MIDC Chakan, Village Nighoje
Pune, Maharashtra - 410 501

Italy

www.bonfiglioli.it
Headquarters
Bonfiglioli Riduttori S.p.A.
Via Giovanni XXIII, 7/A
Lippo di Calderara di Reno - 40012 Bologna
Tel. +39 051 647 3111
Mobile, Wind
Via Enrico Mattei, 12 Z.I. Villa Selva - 47100 Forlì
Tel. +39 0543 789111
Industrial
Via Bazzane, 33/A - 40012 Calderara di Reno
Tel. +39 051 6473111
Via Trinità, 1 - 41058 Vignola
Tel. +39 059 768511
Via Sandro Pertini lotto 7b - 20080 Carpiano
Tel. +39 02 985081
Bonfiglioli Mechatronic Research
Via F. Zeni 8 - 38068 Rovereto
Tel. +39 0464 443435/36

New Zealand

www.bonfiglioli.co.nz
88 Hastie Avenue, Mangere Bridge, 2022 Auckland
PO Box 11795, Ellerslie
Tel. +64 09 634 6441

Singapore

www.bonfiglioli.com
24 Pioneer Crescent #02-08
West Park Bizcentral - Singapore, 628557
Tel. +65 6268 9869

Slovakia

www.bonfiglioli.com
Robotnícka 2129
Považská Bystrica, 01701 Slovakia
Tel. +421 42 430 75 64

South Africa

www.bonfiglioli.co.za
55 Galaxy Avenue, Linbro Business Park - Sandton
Tel. +27 11 608 2030

Spain

www.tecnotrans.bonfiglioli.com
Tecnotrans Bonfiglioli S.A.
Pol. Ind. Zona Franca, Sector C, Calle F, nº 6
08040 Barcelona
Tel. +34 93 447 84 00

Turkey

www.bonfiglioli.com.tr
Atatürk Organize Sanayi Bölgesi, 10007 Sk. No. 30
Atatürk Organize Sanayi Bölgesi, 35620 Çiğli - İzmir
Tel. +90 0 232 328 22 77

United Kingdom

www.bonfiglioli.co.uk
Industrial
Unit 7, Colemeadow Road
North Moons Moat - Redditch, Worcestershire B98 9PB
Tel. +44 1527 65022
Mobile, Wind
3 - 7 Grosvenor Grange, Woolston
Warrington - Cheshire WA1 4SF
Tel. +44 1925 852667

USA

www.bonfiglioliusa.com
3541 Hargrave Drive
Hebron, Kentucky 41048
Tel. +1 859 334 3333

Vietnam

www.bonfiglioli.vn
Lot C-9D-CN My Phuoc Industrial Park 3
Ben Cat - Binh Duong Province
Tel. +84 650 3577411



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.



HEADQUARTERS

Bonfiglioli Riduttori S.p.A.
Via Giovanni XXIII, 7/A
40012 Lippo di Calderara di Reno
Bologna (Italy)
tel: +39 051 647 3111
fax: +39 051 647 3126
bonfiglioli@bonfiglioli.com
www.bonfiglioli.com