The broadest range of solutions for the Mining Industry

Thanks to decades of experience in developing customized solutions for the most demanding mining applications around the world, Bonfiglioli is able to offer its customers a wide, complete and adapted range of solutions.

From crushing to slurry processes to earth moving applications, our team of experts is designing and creating integrated solutions that perfectly match the harsh and dusty environments typical of mining applications.

Bonfiglioli final drive, gearbox, geared motor or motion and control solutions are recognized on the market by worldwide leading players, with whom we’ve been working for decades. Today, our range of products is one of the broadest available in the world, with torque values from 13 Nm to 3,000,000 Nm.

Products for all types of mining equipment:

- Hydraulic shovel excavators
- Electric or hybrid rope shovel excavators
- Bucket wheel excavators
- Dump trucks with diesel-electric driveline
- Crushers and screeners
- Mining stackers
- Belt wagons
- Conveyors - Systems & belt drives
- Conveyors - Systems & mobile transfer drives
- Blast hole drills
- Surface miners
- Underground mining equipment
Crushing, Grinding & Material Handling

Crushing
Crushing & grinding solutions

Crushing is a crucial process in the mineral industry, so reliability of the products for these applications must be extremely high to ensure process continuity. Bonfiglioli solutions for crushers are extremely robust and manufactured to the highest quality criteria. Our heavy-duty products for these applications can operate 24/7/365 and ensure maximum operational time. Furthermore, our solution can be customized with torque arms adapted to the machine design and completed with highly corrosion-resistant paints and seals for mining environments.

Main drive
HDO/HDP Series
Heavy duty gearbox and geared motor

Benefits
• Compact layout solution
• Easy gearbox installation (shaft mounting option)
• Highly transmissible power
• Cooling-system free
• Wide range of temperature & working condition

Features
• 14 gearbox sizes
• Modular design
• Torque up to 210,000 Nm

Standard gearboxes and geared motors features for mining applications:
Taconite seals, C4 or C5 surface protection according to ISO 12944-2, oil heaters, greasers and sensors, heavy duty oil breather, IP56 degree of protection, thermal protective devices (thermistors and thermostats), anti-condensate heaters, tropicalized windings.
Bonfiglioli is an expert on issues related to these applications: the high breaking torque required at startup, the high load shocks caused by material drops and the dusty environments in mines are only a few of the challenges that our products can successfully overcome. We can provide complete solutions for feeders and conveyors with integrated base plates and torque arms which are protected against harsh environments with special seals and paints to simplify machine design for our customers.

**Feeding**
**Feeder & conveyor solutions**

Bonfiglioli is an expert on issues related to these applications: the high breaking torque required at startup, the high load shocks caused by material drops and the dusty environments in mines are only a few of the challenges that our products can successfully overcome. We can provide complete solutions for feeders and conveyors with integrated base plates and torque arms which are protected against harsh environments with special seals and paints to simplify machine design for our customers.

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**Main drive**

**HDO Series**
Heavy duty gearbox and geared motor (Bevel-Helical)

**Benefits**
- One-stop-shop for a complete drive solution
- E-motor alignment free solution & free base frame
- Reliable, free maintenance and integrated cooling system
- Extended lifetime & reliability
- Highly transmissible power

**Features**
- Extended bearing lifetime
- Torque range up to 210,000 Nm
- Strengthened E-motor input flange with integrated fan and coupling
- Wide range of options
- Integrated forced oil lubrication option
- Torque arm, coupling, brake, motor

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**Inverters**

**Active Cube Series**
Premium Inverter

**Benefits**
- High power density
- Water cooling provides increased life-time application
- Cost-effective solution

**Features**
- Energy saving functions
- Motor temperature monitoring
- Ready for liquid cooling option

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**Standard gearboxes and geared motors features for mining applications:**
Taconite seals, C4 or C5 surface protection according to ISO 12944-2, oil heaters, greasers and sensors, heavy duty oil breather, IP56 degree of protection, thermal protective devices (thermistors and thermostats), anti-condensate heaters, tropicalized windings.
Crushing, Grinding & Material Handling

Multi-functional machines, such as stackers/reclaimers, store and gather material in large mining processes. Bonfiglioli can provide solutions for all stacker/reclaimer drives. The products we supply are tailored to match the specific requirements of each machine drive: different brakes, forced lubrication, integrated base plates, cooling fans and oil expansion tanks are just a few examples of how we can meet our customers’ needs. Finally, all the solutions can be further customized with a set of features specifically developed to resist the harsh mining environment.

Stacking & reclaiming
Stacker / reclaimer solutions

Slew drive
300M Series
Planetary gearbox and geared motor

Benefits
- Hydraulic or electric motor input solution
- Integration with negative brake
- High overload capacity
- Torque control
- Easy installation

Features
- Reinforced bearing output shaft
- Eccentric mounting flange option for pinion/girth gear adjustment
- Shock load up to 2,000,000 Nm
- Encoder and integrated load cell
- Base frame, coupling, brake, motor
- Oil expansion tank & oil level switch

Bucket wheel drive
3/H Series
Gearbox and geared motor

Benefits
- One-stop shop for a complete drive solution
- Extended oil service interval
- Maintenance free cooling device solution
- High overload capacity
- Highly transmissible torque and power

Features
- Modular design
- Shock load up to 2,000,000 Nm
- Increased bearing load capability
- Wide range of options
- Integrated forced oil lubrication
- Torque arm, base frame, coupling, brake, motor

Track drive
FP Series

Output torque
- 100 ... 1,100 kNm

Gear ratios
- 248 ... 825

Benefits
- Compact design
- High torque & load capacity
- Available with failsafe parking brake and for most cartridge type fixed or variable.

Features
- Rotating housing
- Rugged design
- Mechanical lifetime seals
- 3-7 Planetary wheels per stage
- Notchless ground tooth root
- Different ratios
- Integrated disc-brake

Standard gearboxes and geared motors features for mining applications:
Taconite seals, C4 or C5 surface protection according to ISO 12944-2, oil heaters, greasers and sensors, heavy duty oil breather, IP56 degree of protection, thermal protective devices (thermistors and thermostats), anti-condensate heaters, tropicalized windings.
Unloading procedures in a mining plant are usually done by a train positioner coupled with a wagon tippler. Bonfiglioli solutions for train positioners have customized gearmotors adapted to the machine design. Furthermore, the products we use in these applications feature special seals.

**Wagon trippler:**
Wagon tripplers rotate train cars together with the rail section beneath them to unload the material.

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**Train positioner drive**

**300M Series**

Planetary gearbox and geared motor

**Benefits**
- Highly transmissible torque and power
- Compact design
- Cooling-system free
- Integrated brake solution
- Wide range of temperature & working condition

**Features**
- New e-motor flange with integrated fan
- Increased bearing load capability
- Dedicated design for disk brake integration
- Nominal torque up to 1,300,000 Nm
- Modular design
- Oil expansion tank & oil level switch

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**Inverters**

**Active Cube Series**

Premium Inverter

**Benefits**
- High power density
- Water cooling provides increased life-time application
- Cost-effective solution

**Features**
- Energy saving functions
- Motor temperature monitoring
- Ready for liquid cooling option

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Standard gearboxes and geared motors features for mining applications:
Taconite seals, C4 or C5 surface protection according to ISO 12944-2, oil heaters, greasers and sensors, heavy duty oil breather, IP56 degree of protection, thermal protective devices (thermistors and thermostats), anti-condensate heaters, tropicalized windings.
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### Slurry Processing

Focusing on solid/liquid separation, the belt filter presses the product with mechanical pressure to squeeze the water out of the sludge. Flexibility in layout and mounting positions as well as high resistance in harsh, dusty and ambient conditions are key features that our products can deliver.

### Dewatering

**Belt filter solutions**

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<tr>
<td><strong>Planetary gearbox and geared motor</strong></td>
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**Benefits**
- One-stop-shop for a complete drive solution
- High flexibility in layout and mounting positions
- High resistance in harsh & dusty ambient conditions
- High torque density
- Wide range of working temperature working conditions

**Features**
- 20 gearbox sizes
- Nominal torque up to 1,300,000 Nm
- Modular design
- Increased bearing load capability
- Shaft gearbox mounting
- Torque arm

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**Standard gearboxes and geared motors features for mining applications:**
- Taconite seals, C4 or C5 surface protection according to ISO 12944-2, oil heaters, greasers and sensors, heavy duty oil breather, IP56 degree of protection, thermal protective devices (thermistors and thermostats), anti-condensate heaters, tropicalized windings.
Spiral classifiers are designed to settle and dewater relatively coarse particles from high volume, low percent solid volume streams. Flexibility in layout and mounting positions as well as high resistance in harsh, dusty and ambient conditions are key features that our products can deliver.

Main drive

300M Series
Planetary gearbox and geared motor

Benefits
- One-stop-shop for a complete drive solution
- High flexibility in layout and mounting positions
- High resistance in harsh & dusty ambient conditions
- High torque density
- Wide range of working temperature working conditions

Features
- 20 gearbox sizes
- Nominal torque up to 1,300,000 Nm
- Modular design
- Increased bearing load capability
- Flange gearbox mounting

Standard gearboxes and geared motors features for mining applications:
Taconite seals, C4 or C5 surface protection according to ISO 12944-2, oil heaters, greasers and sensors, heavy duty oil breather, IP56 degree of protection, thermal protective devices (thermistors and thermostats), anti-condensate heaters, tropicalized windings.
Slurry Processing

Flotation

Flotation cell solutions

Flotation cells mainly consist of big tanks where an impeller keeps the water/material solution rotating at a high speed. For this application, Bonfiglioli provides helical bevel or parallel shaft gearmotors with more bearings. Output configurations are usually reinforced bearings to withstand by the machine impeller on the shaft. In some models, the machine requires injection of high-pressure air to maximize separation of the material from water.

Main drive

HDO/HDP Series

Heavy duty gearbox and geared motor

Benefits
- Air flow inlet and through hole prearrangement on output shaft
- Enhanced oil leak protection
- High radial & axial load capability on output shaft
- Extended lifetime & reliability
- Highly transmissible power

Features
- Reinforced bearing and extended span on output shaft
- Drywell
- Modular design
- Integrated forced oil lubrication
- Back stop device

Standard gearboxes and geared motors features for mining applications:
Taconite seals, C4 or C5 surface protection according to ISO 12944-2, oil heaters, greasers and sensors, heavy duty oil breather, IP56 degree of protection, thermal protective devices (thermistors and thermostats), anti-condensate heaters, tropicalized windings.
Separating the minerals from the water using gravity sedimentation means controlling the speed and at the same time facilitating the precise movements. For this application Bonfiglioli offers vertical linear planetary gearboxes with very high reduction ratios to obtain speeds of <1 rpm on the output shaft, with particular attention to possible torque overloads, depending on the solid material layer thickness moved by the rake.

Main drive

300M Series
Planetary gearbox and geared motor

**Benefits**
- High shock load capability
- Extended lifetime & reliability
- Torque control

**Features**
- Increased bearing load capability
- Integrated load cell
- Modular design
- Shock load up to 2,000,000 Nm
- Oil expansion tank & oil level switch

Inverters

Active Cube Series
Premium Inverter

**Benefits**
- High power density
- Water cooling provides increased life-time application
- Cost-effective solution

**Features**
- Energy saving functions
- Motor temperature monitoring
- Ready for liquid cooling option

Standard gearboxes and geared motors features for mining applications:
- Taconite seals, C4 or C5 surface protection according to ISO 12944-2, oil heaters, greaseers and sensors, heavy duty oil breather, IP56 degree of protection, thermal protective devices (thermistors and thermostats), anti-condensate heaters, tropicalized windings.
Earth-Moving Machines

Bucket wheel excavators
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Large excavators
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www.bonfiglioli.com
Earth-Moving Machines

**Large excavators**
From 150 to 1,400 tons

**Track drives**
Bonfiglioli solutions for large tracked excavators are compact yet deliver high performance. The wide variety of ratio combinations allows our solutions to offer the best possible efficiency.

**Slew drives**
Compactness and high performance are the two main features of Bonfiglioli solutions for large excavators’ applications.

---

**700C Series**

- **Output torque**
  - 1 ... 625 kNm

- **Gear ratios**
  - 5.3 ... 492

- **Benefits**
  - Power shift capability
  - Compact solution
  - High performance

- **Features**
  - Two gear shifting transmission
  - Hydraulic controlled shifting
  - Integrated parking & emergency brake
  - Optional cooling flow to input stage and clutch unit
  - Wide variety of ratio combinations

---

**F Series**

- **Output torque**
  - 620 ... 2,916 kNm

- **Gear ratios**
  - 249 ... 989

- **Benefits**
  - Power shift capability
  - Compact solution
  - High performance

---

**700T Series**

- **Output torque**
  - 1 ... 80 kNm

- **Gear ratios**
  - 3.4 ... 2,000

- **Benefits**
  - Compact structure
  - Suitable for various hydraulic motors
  - High performance

---

**S Series**

- **Output torque**
  - 5.5 ... 130 kNm

- **Gear ratios**
  - 23 ... 67

- **Benefits**
  - Compact structure
  - Suitable for various hydraulic motors
  - High performance

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**Features**
- Notchless ground tooth root
- Integrated disc-brake
- High availability by highest teeth and production quality

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Bonfiglioli solutions for large tracked excavators are compact yet deliver high performance. The wide variety of ratio combinations allows our solutions to offer the best possible efficiency.

Compactness and high performance are the two main features of Bonfiglioli solutions for large excavators’ applications.

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**Track drives**

**F Series**

- **Output torque**
  - 620 ... 2,916 kNm

- **Gear ratios**
  - 249 ... 989

- **Benefits**
  - Power shift capability
  - Compact solution
  - High performance

---

**700T Series**

- **Output torque**
  - 1 ... 80 kNm

- **Gear ratios**
  - 3.4 ... 2,000

- **Benefits**
  - Compact structure
  - Suitable for various hydraulic motors
  - High performance

---

**S Series**

- **Output torque**
  - 5.5 ... 130 kNm

- **Gear ratios**
  - 23 ... 67

- **Benefits**
  - Compact structure
  - Suitable for various hydraulic motors
  - High performance

---

**Features**
- Notchless ground tooth root
- Integrated disc-brake
- High availability by highest teeth and production quality
Travel drives

700C Series

Output torque
• 1 ... 625 kNm

Gear ratios
• 5.3 ... 492

Benefits
• Power shift capability
• Compact solution
• High performance

Features
• Two gear shifting transmission
• Hydraulic controlled shifting
• Integrated parking & emergency brake
• Optional cooling flow to input stage and clutch unit
• Wide variety of ratio combinations

F Series

Output torque
• 620 ... 2,916 kNm

Gear ratios
• 249 ... 989

Benefits
• Power shift capability
• Compact solution
• High performance

Features
• Two gear shifting transmission
• Hydraulic controlled shifting
• Integrated parking & emergency brake
• Optional cooling flow to input stage and clutch unit
• Wide variety of ratio combinations

Cutter drives

FA Series

Max cutting torque
• 8.5 ... 32 kNm

Input power
• 80 ... 300 kW

Gear ratios
• 16 ... 26

Benefits
• Compact structure
• High performance
• High availability by highest teeth and production quality

Features
• Notchless ground tooth root
• Different ratios
• Integrated disc-brake
• Suitable for various hydraulic motors

Surface miners

From 30 to 200 tons

Travel drives

Bonfiglioli solutions for tracked surface miners are compact yet deliver high performance. The wide variety of ratio combinations allows our solutions to offer the best possible efficiency.

Cutter drives

Compactness and high performance are the two main features of Bonfiglioli cutter drives for surface miners. Tailored to the hardness of the material to be mined, these solutions are customized to satisfy customer-specific requirements.
Earth-Moving Machines

Bucket wheel excavators
Up to 240,000 m³/d

Track drives
Bonfiglioli solutions for bucket wheeled excavators are compact yet deliver high performance. The wide variety of ratio combinations allows our solutions to offer the best possible efficiency.

**Track drives**

### 700C Series

- **Output torque**
  - 1 ... 625 kNm
- **Gear ratios**
  - 5.3 ... 492
- **Benefits**
  - Power shift capability
  - Compact solution
  - High performance
- **Features**
  - Two gear shifting transmission
  - Hydraulic controlled shifting
  - Integrated parking & emergency brake
  - Optional cooling flow to input stage and clutch unit
  - Wide variety of ratio combinations

### F Series

- **Output torque**
  - 620 ... 2,916 kNm
- **Gear ratios**
  - 249 ... 989
- **Benefits**
  - Power shift capability
  - Compact solution
  - High performance
- **Features**
  - Two gear shifting transmission
  - Hydraulic controlled shifting
  - Integrated parking & emergency brake
  - Optional cooling flow to input stage and clutch unit
  - Wide variety of ratio combinations

### Slew drive

**300M Series**

Planetary gearbox and geared motor

- **Benefits**
  - Hydraulic or electric motor input solution
  - Integration with negative brake
  - High overload capacity
  - Torque control
  - Easy installation
- **Features**
  - Reinforced bearing output shaft
  - Eccentric mounting flange option for pinion/girth gear adjustment
  - Shock load up to 2,000,000 Nm
  - Encoder and integrated load cell
  - Base frame, coupling, brake, motor
  - Oil expansion tank & oil level switch

### Bucket wheel drive

**3/H Series**

Gearbox and geared motor

- **Benefits**
  - One-stop shop for a complete drive solution
  - Extended oil service interval
  - Maintenance free cooling device solution
  - High overload capacity
  - Highly transmissible torque and power
- **Features**
  - Modular design
  - Shock load up to 2,000,000 Nm
  - Increased bearing load capability
  - Wide range of options
  - Integrated forced oil lubrication
  - Torque arm, base frame, coupling, brake, motor
Jaw crushers
From 30 to 80 tons

Track drives
Bonfiglioli solutions for tracked jaw crushers are compact yet deliver high performance. The wide variety of ratio combinations allows our solutions to offer the best possible efficiency.

**Track drives**

### 700C Series
- **Output torque**
  - 1 ... 625 kNm
- **Gear ratios**
  - 5.3 ... 492
- **Benefits**
  - Power shift capability
  - Compact solution
  - High performance
- **Features**
  - Two gear shifting transmission
  - Hydraulic controlled shifting
  - Integrated parking & emergency brake
  - Optional cooling flow to input stage and clutch unit
  - Wide variety of ratio combinations

### F Series
- **Output torque**
  - 620 ... 2,916 kNm
- **Gear ratios**
  - 249 ... 989
- **Benefits**
  - Power shift capability
  - Compact solution
  - High performance
- **Features**
  - Two gear shifting transmission
  - Hydraulic controlled shifting
  - Integrated parking & emergency brake
  - Optional cooling flow to input stage and clutch unit
  - Wide variety of ratio combinations

### FP Series
- **Output torque**
  - 100 ... 1,100 kNm
- **Gear ratios**
  - 248 ... 825
- **Benefits**
  - Compact design
  - High torque & load capacity
  - Available with failsafe parking brake and for most cartridge type fixed or variable.
- **Features**
  - Rotating housing
  - Rugged design
  - Mechanical lifetime seals
  - 3-7 Planetary wheels per stage
  - Notchless ground tooth root
  - Different ratios
  - Integrated disc-brake
Global Presence

Bonfiglioli is a market force with a presence spanning 22 countries on 5 continents. Our organization makes the most of geographic proximity to offer complete solutions combining efficiency and competence.

We Are a Global Company

Thanks to an international network of sales branches and closely interconnecting production plants, we can guarantee the same high standards of Bonfiglioli quality anywhere at any given time. Aware that our direct presence in local markets is the key to long-lasting success, our family includes 20 sales branches, 13 production plants and more than 500 distributors around the world.

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