

Proven reliability in tough mining environments



Increase productivity and lower costs

Unplanned maintenance, extended downtime and complex repairs are disruptive and expensive for mining and mineral processing operations. Our reliable peristaltic pumps and hoses are engineered to avoid these stressful situations.

Mining and mineral processing companies trust our solutions to:

- Increase meantime between failures (MTBF)
- Decrease meantime to repair (MTTR)
- Minimise maintenance costs
- Boost operational efficiency in harsh environments

Whether it is transferring corrosive and abrasive slurries, dewatering or precise chemical dosing, we provide a wide range of robust peristaltic pumps, hoses, tubing and ancillaries for fluid handling in mining operations, with expert on-site technical support.



Robust peristaltic pumps and hoses



Bredel

Whether by volume or mass, Bredel hose pumps can outperform centrifugal pumps in continuous flow rates up to 72 m³/h and intermittent flow rates up to 108 m³/h when pumping concentrate, gangue or tailings, as well as chemical reagents and coagulants. Their ability to handle abrasive, high-viscosity fluids minimises process water usage, maximises uptime and reduces maintenance. Bredel hose pumps are unaffected by changes to flow rate and solids content, up to 16 bar back pressure.



Qdos

Qdos® chemical metering pumps offer repeatable, quick, simple and safer maintenance, which is ideal for contained dosing of reagents at remote mine sites.



Hoses

Bredel NR (Natural Rubber) Metering hoses provide outstanding abrasion resistance for heavier slurries and sludges with pressure capability up to 16 bar (232 psi). The Bredel NR Transfer hose is designed for general fluid transfer applications at pressures up to 12 bar (174 psi).

Lined with polytetrafluorethylene (PTFE), Aflex hoses offer excellent chemical resistance for transferring reagents.

Boliden

CASE STUDY

Boliden boosts sustainability and reliability at Garpenberg with Bredel hose pumps

At Boliden's Garpenberg mine in Sweden, ores containing zinc, lead, silver, copper, and gold are extracted and processed as part of a highly efficient, cost-effective operation that minimises environmental impact. Within this demanding environment, Bredel peristaltic hose pumps play a critical role in multiple applications.



The robust design of Bredel ensures reliable, low-maintenance performance in stable, high-pressure transfer of slurry and careful handling of polymer, helping Boliden maximise productivity while reducing downtime at its concentrator, tailings facility, and paste plant.

With some Bredel hose pumps at Garpenberg operating reliably for more than a decade, they provide long-term sustainability benefits and operational efficiency that align perfectly with Boliden's ambition to lead the industry in climate responsibility.

Boliden uses Bredel hose pumps at Garpenberg for:

- Handling thickener underflow for tailings and concentrated slurries (final product)
- Transferring concentrated slurry (thickened slurry) to feed a batch mixer and a continuous mixer
- Polymer transfer for mixing and dosing
- Chemical dosing and slurry sampling



Located at the concentrate transfer stage, Bredel hose pumps move high-density slurry against system heads of up to 31 metres, maintaining stable flow even when slurry density and composition fluctuate.

Three Bredel 2100 pumps transfer concentrated slurry and zinc concentrate to both a batch mixer and a continuous mixer, maintaining reliable flow under demanding system head conditions. In these applications, hose pumps deliver the most economical and sustainable balance of performance, wear life and maintenance.

Bredel hose pumps move slurries denser than tailings underflow to filter press tanks in zinc, lead, and copper concentrators. Without the need for seal water and diluting dense slurries, Bredel hose pumps can reduce filter capacity by as much as 75%.

Bredel 50 pumps manage sampling slurry through analysers. Discharge lines can be long, and the suction conditions vary from ideal to challenging, so the suction lift capabilities up to 9.5 metres of self-priming Bredel hose pumps is important.

Bredel 50 pumps deliver the required volume and stable flow despite changes in slurry density. Under challenging suction and discharge conditions, they maintain a consistent slurry feed without needing ancillary equipment and without line blockages that could disrupt analyser operation. As Bredel hose pumps are reversible, this allows safe clearing of blockages to reduce maintenance downtime and prevent production losses.

[Read full Boliden case study here](#)



Operational efficiency with minimal maintenance

Our pumps are built to reduce maintenance frequency and cost by their design:

- No impellers, liners, mechanical or packed seals, check valves, rotors, or stators to replace
- The only wear part is the hose or tube—replaced in minutes with standard tools
- Hoses are manufactured for consistency, repeatability, chemical compatibility and a long life
- Genuine spare parts precisely matched for our pumps reduce the risk of costly, hazardous breakdowns

With easily replaceable components, local stock availability, and genuine spare parts, maintenance becomes faster, safer, and more cost-effective.



Sustainable mining

From metallic oxide to sulphide and carbon-based ore extraction, benefits of our solutions for a more sustainable operation include:

- **Reduce resource loss:** inaccurate reagent dosing reduces flotation efficiency, increasing waste by sending valuable ore to tailings and requiring additional costly reprocessing. This weakens environmental sustainability and operational efficiency
- **Reduce chemical consumption:** accurate dosing prevents costly under- or overdosing of reagents; low-shear, gentle peristaltic pumping protects the consistency of polymer chains, avoiding damage to the chemical
- **Reduce water consumption:** Bredel pumps reliably handle slurries with a solids mass concentration of up to 80%, maintaining stable performance under varying conditions where centrifugal pumps are limited by BEP (Best Efficiency Point) sensitivity
- **Reduce energy use:** maximum hydraulic efficiency



- **Reduce risk:** reliable chemical containment prevents uncontrolled leakage and supports a safer, cleaner operating environment
- **Built to last:** fewer repairs, fewer parts, and longer service life reduces waste

Cornish Metals

CASE STUDY

Bredel and Qdos pumps help to decontaminate minewater

At South Crofty tin mine in England, contaminated minewater is being pumped from underground shafts and treated before discharging into a nearby river. Cornish Metals Inc is using eight Bredel 40 hose pumps and three Qdos chemical metering and dosing pumps for vital roles at South Crofty.

Reliable, low-maintenance pumps

Qdos 120 pumps are used to dose hydrogen peroxide to oxidise the metals and cause iron and arsenic to precipitate out of the solution. Bredel hose pumps transfer excess sludge containing contaminants such as iron, manganese and arsenic from Lamella clarifiers, into a holding tank, from which a further Bredel pump pumps the sludge into a Deep Cone Thickener (DCT). The thickened sludge from the underflow of the DCT is pumped by a final Bredel pump into a holding tank, prior to disposal at a nearby tailing storage facility. In future years it is planned that the sludge will be disposed of with tailings in the form of paste fill in the underground voids of the mine.



Sustainability benefits

Minewater treatment has led to drops in iron of around about 99%, arsenic of 95%, compared to the untreated minewater.

An added sustainability benefit for South Crofty tin mine is the renewable energy the water treatment plant generates. Water discharged from the mine powers a hydro-turbine that generates up to 15% of the power consumed by the water treatment plant.

“By removing those metals from the environment, it massively improves the quality of the water, and allows life to come back into the river.”

South Crofty Project Manager at the time

Read full Cornish Metals case study here



Less water consumption

Bredel's reliable peristaltic pump technology supports improved water management in mining applications, enabling water savings of up to 70% compared with typical centrifugal pump installations.

These savings are achieved as Bredel hose pumps can handle a much higher solids mass concentration and are unaffected by fluctuations, reducing the need for dilution water to maintain operation within narrow solids content limits.

Good water management minimises environmental impact as well as disruption to mining operations.

Clog-free Bredel hose pumps can handle undiluted tailings and thickener underflow slurries with a solids mass concentration of up to 80%, including mixed regime slurries with oversized particles up to 25% of the hose diameter, for example mixtures of fine and coarse tailings.

As Bredel pumps do not require mechanical seals or packing, they eliminate the need for seal water and prevent packing-related leakage. This reduces process wastewater treatment requirements and the demand for gland service water.

By enabling operation at higher slurry solid concentrations, Bredel hose pumps help mining operations reduce overall water usage. This lowers tailings volumes and reduces the load on tailings treatment and storage systems, delivering clear environmental and operating cost benefits.



CASE STUDY

Watson-Marlow and Qdos pumps support GEL's high accuracy, zero carbon production of lithium carbonate

Geothermal Engineering Ltd (GEL) relies on Watson-Marlow 630 and Qdos® peristaltic pumps to deliver the precision dosing, reliability and operator safety required for its mineral extraction process.

GEL started commercial scale production of zero-carbon lithium carbonate from its geothermal power plant at United Downs in Cornwall, England, in February 2026. Lithium carbonate is the key raw material used in the production of rechargeable batteries, including those that power electric vehicles and energy storage systems.

As part of the lithium carbonate processing, two Qdos 60 chemical metering pumps are dosing acid and alkali in the removal of impurities. One Qdos pump is dosing sodium hydroxide to raise the pH level to 11 to remove impurities such as zinc, iron, silicon, and phosphorous; after the impurities have been filtered out, the other Qdos pump doses hydrochloric acid for pH correction. The pumps are being used for approximately 20 minutes per tank, six times per week in the removal of impurities/brine stability stage.



Qdos chemical metering pumps deliver accurate, reliable process chemistry while providing simple, safer maintenance for GEL. They are ideal for the contained dosing of acids and alkalis.

Later in the process, three Watson-Marlow 630 pumps are used to transfer lithium brine and extract the lithium precipitate, as well as other transfer tasks. Their reliability supports uptime, maintains operator confidence and ensures safer chemical containment.

Charlotte Wilkins, Lithium and Projects Manager at GEL, said: "Dosing sodium carbonate accurately is important for us because sodium carbonate is added in a calculated quantity to ensure that all of the lithium chloride reacts to form lithium carbonate, our product.

"Overdosing would mean that we wasted expensive reagents. Underdosing means that we would leave lithium behind. We know we have local support for the pumps should we need it and the pumps have always been reliable."

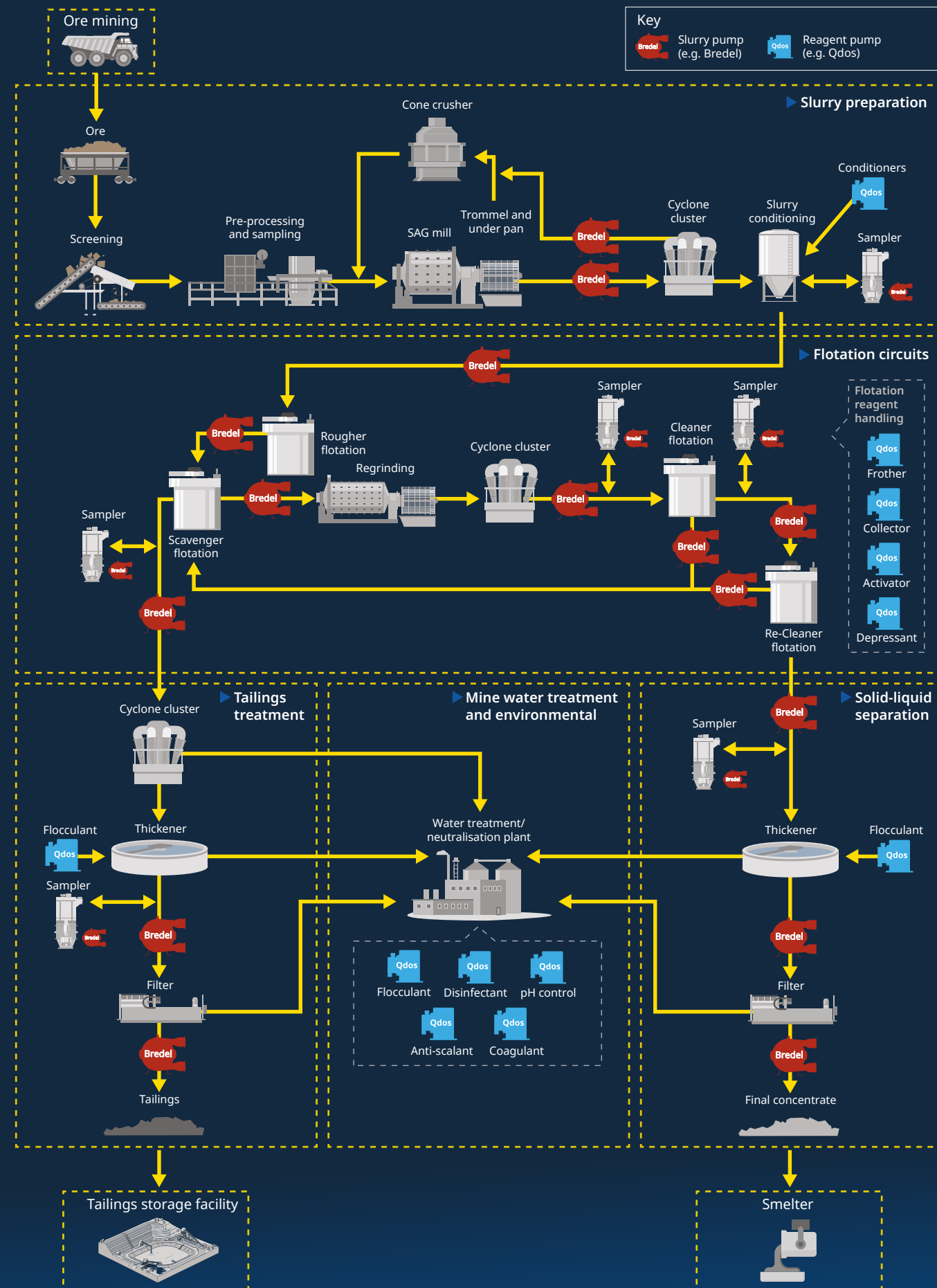


Read full GEL case study here



Sulphide ore concentration process

Key process blocks, control and reagents



A range of products for your mining process



Bredel Heavy-Duty series

- Designed for metering and transfer duties in harsh environments
- Handles a wide range of reagents and abrasive slurries
- Flow rates up to 108.000 L/h, up to 16 bar pressure
- Available in 10 sizes (10-100 mm inner hose diameter)
- Extra heavy-duty options from size 40 upwards: forklift-support; heavy-duty bearings and brackets, window guard



APEX™ hose pump from Bredel

- Optimised for maximum process uptime at low total cost of ownership
- Ideal for chemicals and lighter slurries
- Flow rates up to 6.200 L/h, up to 8 bar pressure
- Available in 5 sizes (10-35 mm inner hose diameter)
- Perfectly shaped, precision-machined hose elements
- Advanced hose fastening system



Qdos® chemical metering pump

- Setting the standard for a new generation of peristaltic metering pumps
- Ideal for handling chemicals from 0.1 mL/min up to 600 L/h
- +/-1% or dosing accuracy up to 9 bar pressure
- Available in 7 sizes and 4 tube material options
- Simple drop-in installation eliminates ancillary equipment



Watson-Marlow close-coupled series

- A compact, rugged option for space-limited mining applications
- Best suited for dosing and point-of-use transfer where reliability matters
- Flow rates up to 2,000 L/h
- Simple installation and spare parts by reducing components
- Option for standard squirrel cage drives



Watson-Marlow cased pumps series

- Our iconic cased drive tube pumps, proven industry workhorses for decades and continuously advancing at the cutting edge of technology
- Designed for reagents dosing and metering in processing laboratories and robust environments
- 500 series flow rates from 0.004 mL/min to 210 L/h
- 600 series flow rates from 0.001 L/min to 1,080 L/h
- 700 series flow rates from 0.002 L/min to 3,300 L/h

MINING SOLUTIONS

**WATSON
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Pumps

**WATSON
MARLOW**
Tubing

Bredel

Hose Pump



Watson-Marlow Fluid Technology Solutions

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