



Putzmeister



Mixkret

Low-profile concrete mixer for mining

The perfect complement for shotcrete

Putzmeister synonymous with reliability



MIXKRET

Key advantages

- Operation optimization
- Both compact and robust
- Reliability guaranteed
- Safety first
- Designed with maintenance in mind



MIXKRET 3



3 m³ mixing drum with drum lifting system



106 kW diesel engine



MIXKRET 4



4 m³ mixing drum



130 kW diesel engine



MIXKRET 5



5 m³ mixing drum



168 kW diesel engine



Largest capacity

MIXKRET 6



6 m³ mixing drum

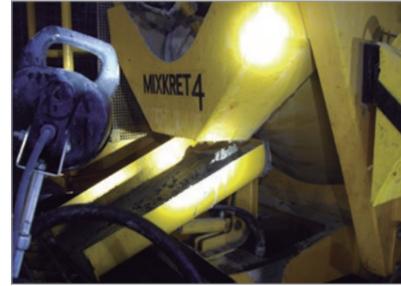


168 kW diesel engine

The range of low profile mixer equipment has been designed and developed to complement and improve the overall shotcrete process in underground mining.

The mixing drums have a 3, 4, 5 or 6 m³ capacity. The complete range has a powerful engine with an automatic altitude compensation system (AAC), and Hydrostatic progressive system. They offer great manoeuvrability in all types of sections owing to their 4-four-wheel drive and four-wheel steering, crab steering and their reduced turning radius.

Both compact and robust



Concrete transport

The Mixkret range has a 3, 4, 5 or 6 m³ capacity for mixing and transporting concrete, thus saving each journey, regardless of the production required on site. All with **electronic speed control system** to adjust drum turning speed, maintain **constant speed** and guarantee the maximum quality of the concrete.

Heavy duty steel

The **mixing drum** is made of **heavy duty steel** for wear and its high elastic index extends the equipment's operational life, maximizing its performance and value for the customer.

Drum and shovels

The technology used in the design of the drum and the blades guarantees an optimal mixing of the concrete, as well as a fast and efficient discharge.

In addition, the reducer's hydraulic line pressure gauge allows the drum rotation pressure to be measured and associated with the state of the mixture.



Heavy-duty axles

The equipment has state-of-the-art heavy-duty planetary axles, suitable for mining equipment, both four-wheel drive and four-wheel steering, providing excellent mobility and manoeuvrability even in galleries and small section tunnels.

Chassis

The Mixkret range's chassis have been subjected to an exhaustive analysis in terms of distribution of weights, loads and torsions. Weight is distributed in a balanced way over both axles, improving the machine's operational life. In addition, its critical parts subjected to stresses are strengthened.

Putzmeister synonymous with reliability



There are Mixkrets in the jobsite with more than 20,000 hours of work in the harsh conditions of underground mines around the world. We use this knowledge to constantly improve equipment and offer our customers highly reliable equipment for their operations.

The transmission of Mixkret range equipment is hydrostatic. Organized as a hydraulic engine and hydraulic pump, it is highly reliable, simple and economical. No gear changes, improving progressivity and changes in speed. Transmission performance is optimal in terms of climbing capacity, travel speed, start acceleration and fuel consumption.

We know the different emission regulations of engines according to the region in which you work, and we adapt to them. Ask for the engine you need in your market.

Safety as a priority

The Mixkret range has been manufactured following the strictest safety regulations.

The components of greater wear and risk of failure are identified by adhering to rigorous internal quality monitoring regulations, focussing on the safety of the vehicle and of people.

The diesel tank and the fuel lines are assembled away from equipment hot spots.

The electrical elements have been selected according to the highest safety standards.

The cleaning platform has been fitted with a safety railing.

There is a safety perimeter around the drum to prevent upper limbs getting caught.



Safety with a triple braking system

The **service brakes** on both axles, with two independent circuits for each of them, comply with the UNE-3450C standard. They are multi-disc type in oil bath and hydraulic.

Mixkret line has sensors that in the event of overheating automatically reduce the speed of the equipment up to 5 km/h until it is regulated.

This system provides great braking power and a long operational life, even in the most demanding conditions.

The negative coupling **parking brake** on both axes enables the machine to be parked in a completely safe way. To monitor pressure, there is a pressure indicator in the cabin which is activated automatically in case of emergency.

A **brake release system** is also fitted to tow the equipment if necessary.

Cabin safety

All Mixkret range cabins comply with **FOPS/ROPS** regulations.

The driver's seat has a **presence sensor** that prevents unwanted movements of the equipment. If there is no operator present, equipment cannot move. In addition, movement is blocked if the operator does not wear a seat belt.

The **control panel in the cabin** has status indicators and alarms, warning against any failure in the different systems: brakes, engine, etc. and a rear view camera monitor.

Safety during transfer

The **downhill speed control system** with tilt sensor ensures that the vehicle always moves at a safe speed.

The **special tires for mining** are calibrated with the axles to avoid accidents due to unwanted or sudden movements by the driver and have an anti-blowout system.

The **optimal free distance on ground level** enables agile circulation through irregular terrains and slopes with maximum safety.

Designed with maintenance in mind



All the critical components of the Mixkret equipment are **easily accessible** from the ground level in order to facilitate boarding by maintenance personnel.

To avoid the breakage of the most fragile components as much as possible, 70% of the hydraulic circuit is mounted in **rigid**, more durable **pipings**.

To facilitate the installation and removal of the **cabin** and **electrical panel**, both components have a **plug-in design**.

In case of failure of the main hydraulic engine for the drum rotation, the **hydraulic power-pack system** enables the concrete to be discharged from the drum by connecting other equipment (Mixkret, Wetkret or an auxiliary engine).

For unwanted **battery** discharges, the **jump-start** auxiliary start electric system facilitates recharging in a safe manner.

The **cleaning** of the equipment is essential to ensure proper operation and prevent premature wear.

The entire Mixkret range therefore has an **integrated water pumping system** consisting of a 200 litre water tank and a high pressure gun with a flow of 30 l/min and 200 bar, plus a 15 meter hose.

Operation optimization



Control display

For greater usability, in the cabin there is a control display with a 7" high resolution screen. This display shows, amongst other features:

- The number of drum turns and its control, so that the appropriate number of turns is not exceeded during transport and the properties of the concrete mix are not depleted.
- Information on the main systems: engine, brake safety, transmission.
- Acoustic warning devices.



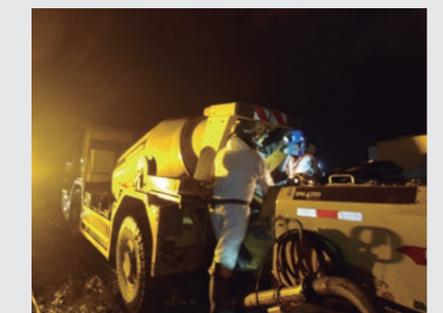
Cable control

The equipment's rear functions can be controlled remotely through the **cable control**, allowing this to be fitted on both sides of the machine.



Adjustable discharge

The discharge chute is adjustable, adapting to the height of the shotcrete equipment hopper for the discharge of the concrete. In addition, Mixkret 3 maintains its reduced height (2,200 mm) without a reduction in the discharge height diminished through the new drum lifting system.



Double helix drum

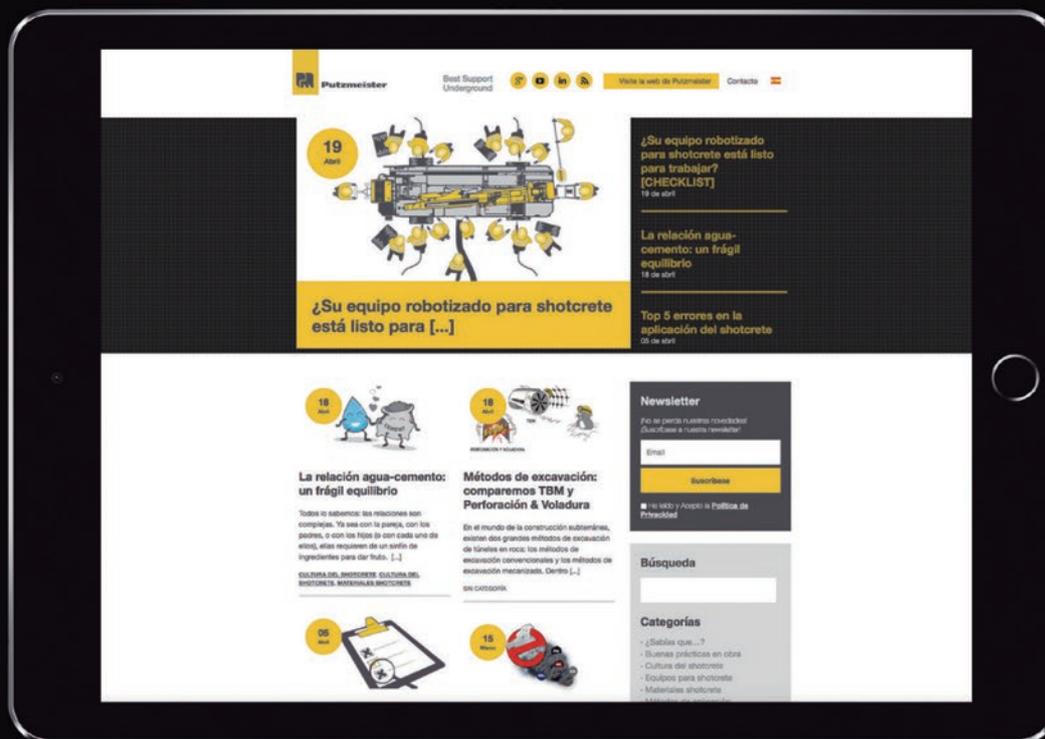
Thanks to the drum's double helix system, it is no longer necessary to stabilize the equipment horizontally when unloading on a sloped surface.

Putzmeister Underground Technology

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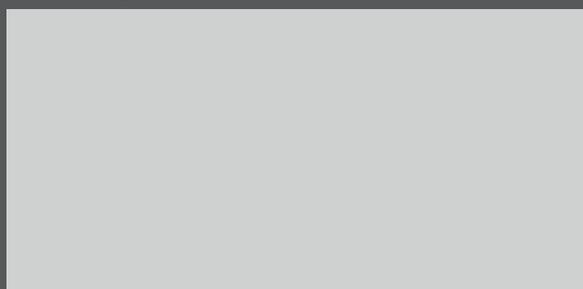
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