

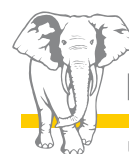
MIXKRET 4



LOW-PROFILE CONCRETE MIXER FOR MINING



BEST
SUPPORT
UNDERGROUND



Putzmeister

Underground Technology

- 1 Front LED driving and working lights
- 2 Easy access to service points for maintenance
- 3 Control panel, display for recording and diagnosing failures and rear camera monitor
- 4 The night-vision camera at the rear facilitates moving in reverse gear, increasing safety
- 5 External control panel to control the concrete mixing drum (mixing, transporting and discharging)
- 6 The ladder facilitates access to the concrete drum for checking and cleaning



1 Front driving and working lights



2 Easy-to-access service points



3 Controls and displays in the driving cabin



4 Night-vision camera at rear

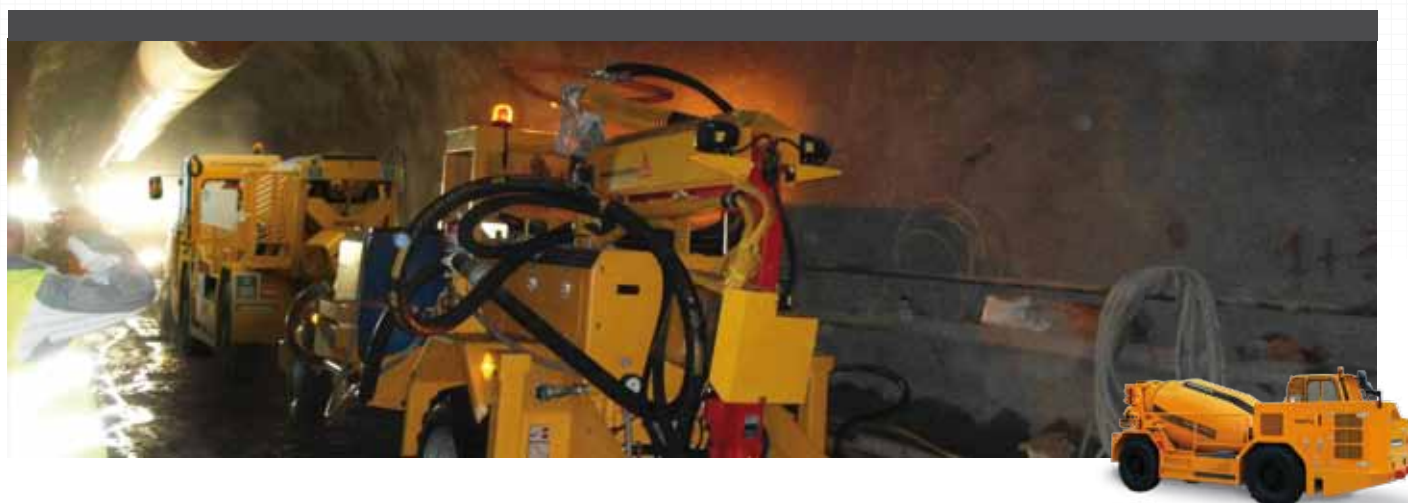


5 External control panel



6 Rear ladder

PUTZMEISTER CONCRETE SPRAYING TECHNOLOGY



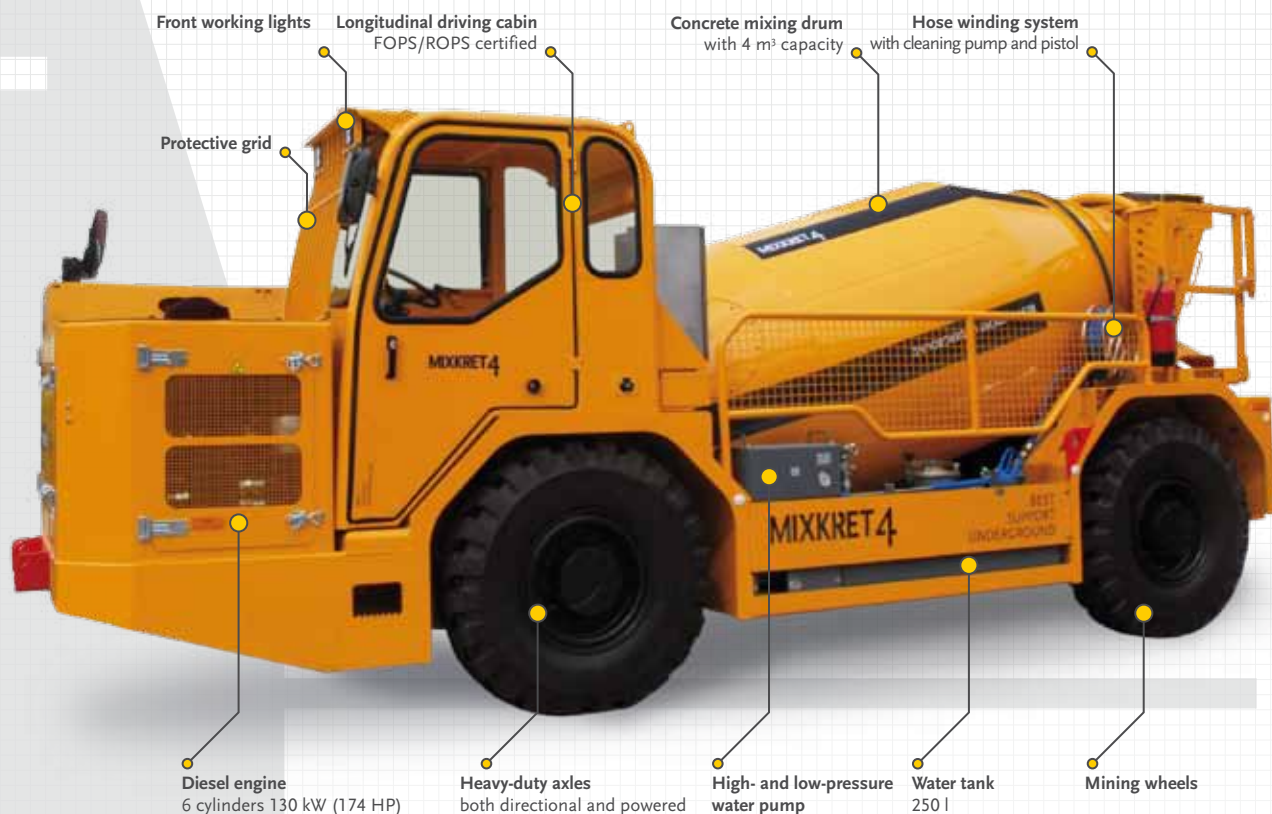
MIXKRET 4: COMPACT, STRONG AND VERSATILE

The low-profile concrete mixer for mining Putzmeister **MIXKRET 4** has been designed and developed to complete and improve the total concrete spraying process. The concrete mixing drum has a maximum concrete capacity of 4m³. The equipment optionally includes a liquid additive discharging system to optimize shotcrete additive logistics. The 6-cylinder, 130 kW (174 HP) engine provides great climbing and driving power, as well as the possibility to work it at great height.

The longitudinal cabin and the rear night-vision camera facilitate driving with the best possible visibility at all times. A compact design with heavy-duty axles, both directional and powered, offer great mobility and maneuverability through galleries and tunnels with small cross sections. In order to guarantee full safety during down slope routes **MIXKRET 4** includes an automatic speed regulation system, which allows traveling at full load with total safety.

**THE PERFECT
COMPLEMENT FOR
THE CONCRETE
SPRAYING PROCESS
IN MINING**

MIXKRET 4



CONCRETE MIXING DRUM: 4 m³ FOR MIXING, TRANSPORTING AND DISCHARGING

The transport capacity of the robust concrete mixer is 4 m³, which enables savings on each journey. The low position of its gravity center offers a reliable and stable behavior during the transport, improving safety. The technology used in the design of the drum and blades ensures optimal concrete mixing, as well as quick and effective discharging. **MIXKRET 4** is equipped with a heavy-duty ancillary transmission that provides high load and rotation capacity.

The concrete mixing drum is made of wear-resistant steel with a high elasticity index in order to extend the working life of the equipment and maximize its performance and value. The hydraulic anti-pouring lid enables concrete transport through steep slopes without loss of material. The equipment has an external control panel in the rear area and a control panel in the driving cabin to control the hydraulic drum (mixing, transporting and discharging). The discharging chute can be oriented and adjusted in height, which facilitates discharging material to equipment which is not located in line or at the same level.

130 kW (174 HP) DIESEL ENGINE: GREAT CLIMBING AND DRIVING POWER

MIXKRET 4 is equipped with a powerful 6-cylinder, 130 kW (174 HP) engine with ACERT technology, which provides a great traction and driving capacity, superior to other equipment of the same range available in the market. The Diesel engine has an AAC (Automatic Altitude Compensation) system that enables its operation at high altitude offering the same performance. The electronic engine control provides a perfect balance of durability, fuel efficiency and low emissions, so it offers the best possible performance with the lowest consumption.

The machine is equipped as standard with a catalyst, which in combination with the electronic engine control, minimizes the ventilation requirements. This electronic engine control allows for the total control of the operation temperature, avoiding overheating.

MIXKRET 4 includes an easy-to-use electronic display to record and diagnose failures, minimizing maintenance periods. The easy access to daily service points simplifies tasks and reduces the time dedicated to scheduled maintenance procedures.

TRANSMISSION AND AXLES: STURDINESS AND MANEUVERABILITY

The hydrostatic transmission with geared motor has electronically controlled continuous variation and ensures the correct relationship between engine torque and speed, reducing fuel consumption and noise levels.

MIXKRET 4 has heavy-duty, state-of-the-art planetary axles, both directional and powered, which offer great mobility and maneuverability in galleries and tunnels with small sections. Its rear axle oscillates, offering greater absorption through uneven terrains on the maximum load area.

To ensure full safety over down slope movement, **MIXKRET 4** includes an automatic speed regulation system that enables full-load traveling at the maximum safe speed.

BRAKES AND WHEELS: SAFETY AND PROTECTION

The service brakes in both axles are multidisc in oil bath, hydraulically driven with two independent circuits. This system provides great braking power and long work life, even under the most demanding conditions. The equipment also has a hydrostatic holding system used to lower the speed in slopes,

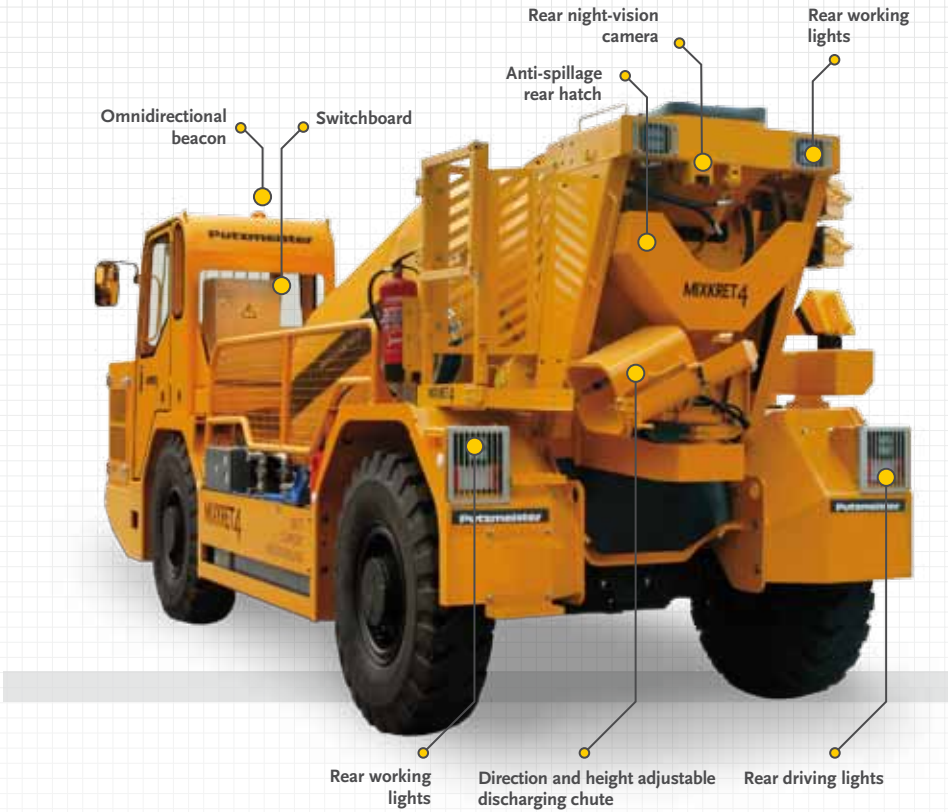
curves and cross sections, minimizing the use of the service brakes. The combined use of service brakes and hydrostatic holding enables to reduce the operation costs and ensures a safe and speedy transport.

The negative-coupling parking brake in both axles allows to park the machine in a safe way. The equipment also includes a brake unblocking system to tow the equipment if necessary.

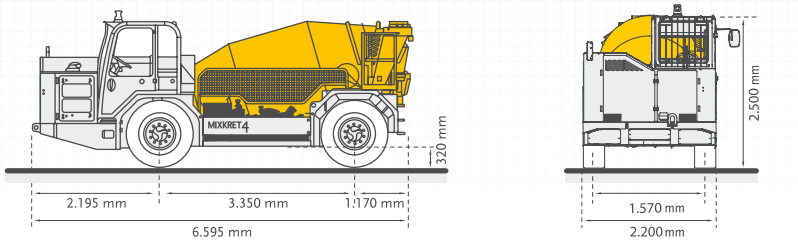
MIXKRET 4 is equipped as standard with mine wheels, ensuring the maximum protection of the equipment in rough conditions, besides an excellent productivity, long tyre life and comfortable driving.

DRIVING CABIN: ERGONOMIC DESIGN AND PERFECT VISIBILITY

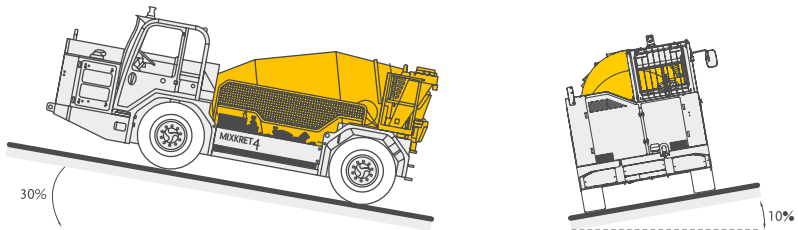
The equipment has an easy-to-access driving cabin with wide front visibility. For back drive MIXKRET 4 has a night-vision camera with infrared lighting that facilitates moving back without the aid from anyone and without the need for stepping down from the cabin, reducing working time and increasing safety. The cabin is designed under ergonomics standards to minimize the driver fatigue and increase productivity. On customer demand, MIXKRET 4 is available with closed cabin with air conditioning and heating.



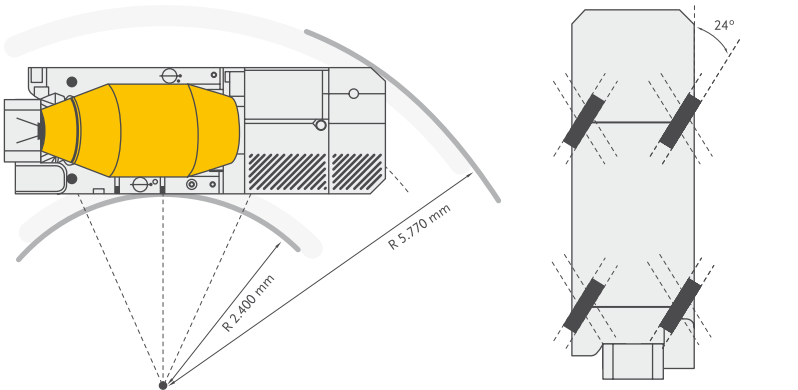
DIMENSIONS AND TURNING RADIUS



TRANSPORT DIMENSIONS



MAXIMUM LONGITUDINAL GRADIENT WHILE DRIVING



TURNING RADIUS

4 - WHEEL STEERING

DATA SHEET

CONCRETE DRUM FOR MIXING, TRANSPORTING AND DISCHARGING

Maximum concrete capacity	4 m ³ (5,2 yd ³)
Operation of concrete mixing drum	Hydraulic
Adjustable turning speed in both directions	0 – 22 rpm
Discharge height	986 - 1.431 mm (3.2 - 4,7 ft)
Discharging chute length Rotary (manually controlled) Height adjustable (electro-hydraulically)	660 mm
Inspection covers	2
Anti-spillage rear hatch	Hydraulic opening and closing
Control panel	External right-hand side and in cabin
Anti-rotation safety lock	Manual

DIESEL ENGINE

Type	Turbo-Intercooler, 6 cylinders
Maximum power	130 kW (174 HP) at 2.200 rpm
Cooling	Water
Engine emissions	In accordance with EU-Stage III A / EPA-Tier 3
Catalyst	DCL Ind. MINE-X DC8
Fuel tank	160 l
AAC system	Automatic altitude compensation

TRANSMISSION AND AXLES

Transmission	Hydrostatic progressive system with continuous variation (ICVD), gearbox and hydraulic variable motor, no gears to change
Operation	Continuous without interruption of traction, self-adjusting based on power requirement (load and slope)
Driving and steering	Four-wheel drive and four-wheel steering (4WD / 4WS)
Axle type	Heavy-duty directional planetary axles
Front axle	Fixed and directional
Rear axle	Swing and directional
Electronic speed control system (inclinometer)	To travel along down slopes
Tyres/Wheel rims	For mining, 12.00 - R20

BRAKES

Service brakes	On both axles, multi-disc in oil bath, hydraulic with independent circuits
Parking brakes (negative)	On both axles, internal SAHR discs, hydraulic operation

PERFORMANCE

Maximum speed	20 km/h (12.4 mph)
Maximum climbing capacity at full load	30% (SAE standard)

OTHER FEATURES

Cabin	FOPS / ROPS certified
Driving lights	LED, 2 front + 2 rear
Working lights	LED, 4 front + 4 rear
Rear camera	Night-vision
Water tank	250 l
Manual fire extinguisher	6 kg
Omnidirectional beacon	Amber
High-pressure water pump for cleaning	With hose winding system and gun
Operator-presence detection system	Driver seat
Automatic greasing system	

WEIGHT

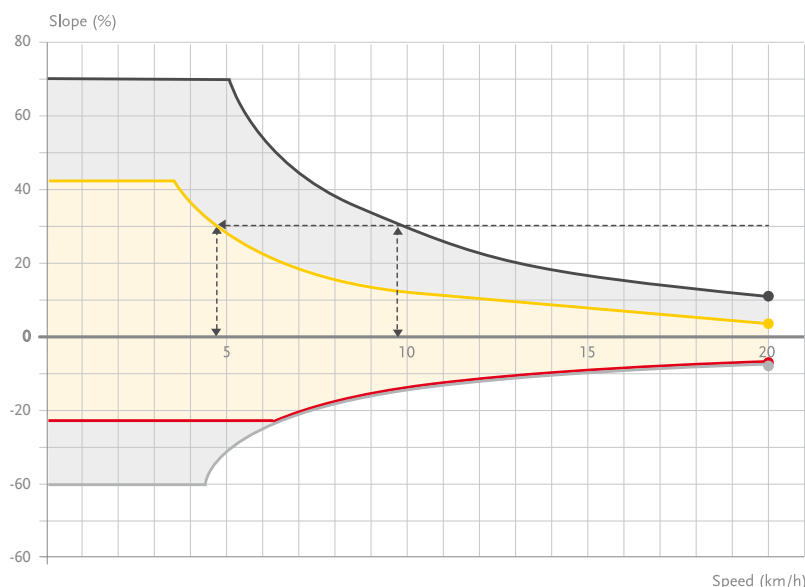
9.900 kg (21,826 lb) without load / 18.900 kg (41,667 lb) with load

OPTIONAL EQUIPMENT

Additive discharging system (tank + pump)	120 l
Fire suppression system, automatic / manual operation	
Closed driving cabin	
Air-conditioning and heating	
Flowmeter for water pump	
Tramming direction lights	

Consult Putzmeister for special configurations

CLIMBING AND HOLDING CAPACITY



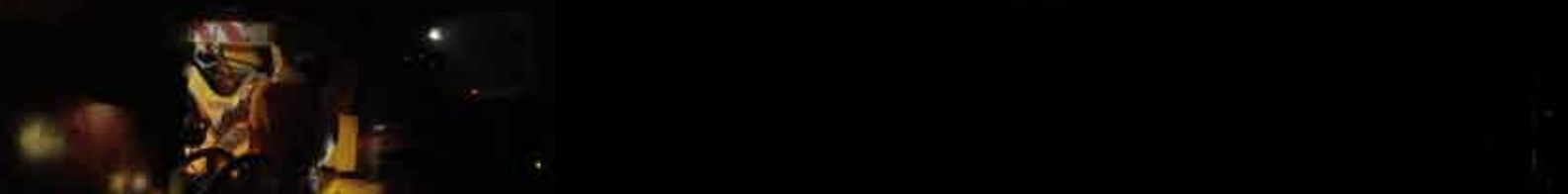
- CLIMBING CAPACITY WITHOUT LOAD (%)
- CLIMBING CAPACITY AT FULL LOAD (%)
- HOLDING CAPACITY WITHOUT LOAD (%)
- HOLDING CAPACITY AT FULL LOAD (%)

No gears to change.
Continuous drive without interruption
of traction force from 0 - 20 km/h.

PUTZMEISTER: CONCRETE SPRAYING TECHNOLOGY

For over 30 years Putzmeister has been designing, developing and producing concrete spraying equipment for mines and tunnels. The experience acquired over these years together with ongoing investment in research and development have made Putzmeister a leading company in this field of application. It is this experience and search for added value for our customer that makes us different.

We offer perfectly synchronized equipment, tailored to our customer's needs and the toughest working conditions. The low-profile concrete mixer line Putzmeister MIXKRET has been designed and developed to complement and improve the concrete spraying process. The versatile MIXKRET can also be used for the transport of additives. Thanks to its powerful engine, the compact and strong equipment makes for the perfect complement.

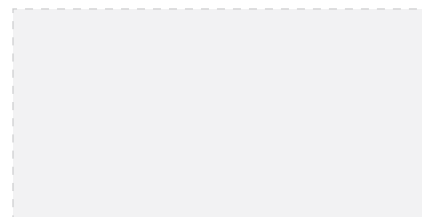


Putzmeister
Underground Technology

MIXKRET4

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Strategic alliance for the development of concrete spraying technology

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