



TECHNICAL BROCHURE

UCM 544

CONCRETE MIXER

5 M³ GEOMETRIC AND 4.4 M³ EFFECTIVE VOLUME



KARER UCM 544 is a concrete mixer designed for non-coal underground concrete transportation, with a geometric volume of **5 m³** and an effective volume of **4.4m³**. KARER UCM 544 has a **compact structure**, can easily cope with **harsh working conditions**, and provides **strong power, strength and reliability**.

KARER UCM 544 uses **Euro 5 (Stage V)** emission **Cummins B6.7** engine or other emission level Cummins engines. Also, Euro 5 (Stage V) emission **Volvo Penta (Sweden)** engine is also offered as an option.

Transmission system uses **DANA 32000** series Dual-variable gearbox. **DANA** brand **axle's** brake is a spring brake with hydraulic release wet brake (**SAHR**), which is more suitable for the complex and harsh working environment underground to ensure safety.

ROPS/FOPS certified cabin adopts an integral frame structure to ensure overall stability, and all walking surfaces adopt anti-skid measures to minimize the possibility of slip and fall accidents. The cabin has adjustable mechanical suspension seat to improve operator comfort.

The concrete tank adopts the internationally **pioneered rotary seal patent technology**, which solves the problem of concrete moisture evaporation, has good constant **humidity performance, stable slump**, and improves the **adaptability and efficiency of construction**.

The machine is equipped with the **PLC intelligent control system** and fault diagnosis and detection system (with invention patents and software copyrights), which can display vehicle status parameters in real time, monitor the data of the whole machine in real time, and has the characteristics of intelligent diagnosis and rapid fault detection.



MAIN PARAMETERS

Concrete Mixing Tank Geometric Volume	5 m ³
Effective Volume	4.4 m ³
Dimensions (cm)	940×200×238
Unloading Height (cm)	from 132 to 207
Adjustable Speed Range of Tank	0-13 rpm
Max Climbing Grade	(25%) 14°
Oscillation	7°
Approach Angle	16°
Max. Steering Angle	±42°

ENGINE

Model	CUMMINS B6.7
Power	168kW(225Hp)@2000rpm
Max. Torque	949Nm@1200rpm
Cylinder	In Line 6
Electric	24 V
Control System	Electronic fuel injection
Cooling System	Water-cooled engine, Direct-drive fan
Fuel System	Remote oil filter Fuel filter Oil-water separator
Starter	7.8 kW motor
Emission	Euro 5 (Stage V)
Air Intake	Low-profile turbocharger Dry air filtration Prefiltration Two-stage filtration
Exhaust System	DOC + DPF + SCR with Addlue/DEF Doser&Mixing
Average Fuel Consumption	16 L/h



WORKING ENVIRONMENT CONDITIONS

Operating ambient temperature	-15°C ~ +50°C
Standard Working Altitude Range	-1500m to +2000m no power loss at 25°C

TRANSMISSION

Integrated Torque Converter and Gearbox	
Brand	DANA
Model	32000 Series
Dual-variable gearbox	
Electronically controlled gearbox	
4 gears forward and 4 gears reverse	

AXLES

Brand	DANA
Model	123
Front Axle	Spring applied hydraulic release brake (SAHR) Hydraulic shock absorber Oscillation angle ±7°
Rear Axle	Spring applied hydraulic release brake (SAHR) Hydraulic shock absorber

WEIGHTS

Operating Weight	13,000 kg
Loaded Weight	23,000 kg
Front Axle (Unloaded)	6,500 kg
Rear Axle (Unloaded)	6,500 kg
Front Axle (Loaded)	6,000 kg
Rear Axle (Loaded)	17,000 kg

SPEEDS

Speed (1st Gear)	4.2 km/h
Speed (2nd Gear)	8.2 km/h
Speed (3rd Gear)	13.5 km/h
Speed (4th Gear)	23.0 km/h

EQUIPMENT DESIGN COMPATIBILITY

GB 21500-2008 Safety requirements for trackless tire ore transport vehicles for underground mining

Q/XY 011-2019 Mining diesel trackless concrete transporter

HYDRAULICS

Working system, steering system, braking system, oil filling system

Connector Standard	JIC
Hose Standard	GB3683
Oil Suction Filtration Accuracy	80 μ m
Return Suction Filtration Accuracy	10 μ m



STEERING HYDRAULIC SYSTEM

Fully hydraulic central articulated steering
Fully hydraulic steering wheel is used for steering

Two double-acting steering cylinders	
Steering hydraulic cylinders	2 pcs
Steering pump is gear type metering pump	

BRAKE HYDRAULIC SYSTEM

The performance of the braking system complies with the requirements of GB/T33921 and JB/T13003 standards

Integrated working brake, emergency brake and parking brake are spring applied, hydraulically released (SAHR)

Fully enclosed multi-disc wet wheel brakes

WORKING HYDRAULIC SYSTEM

Working Control	Pilot control
Hydraulic Lifting Cylinder	2 pcs
Working Pump Type	Closed plunger

WHEELS

Tire Dimensions	12.00-R20
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TANK CAPASITIES

Fuel Tank	181 liters
Hydraulic Oil Tank	220 liters

Cabin



The cabin provides an excellent ergonomic operating environment. The cabin is equipped with a mechanical shock-absorbing suspension seat. It is equipped with a two-point safety belt and the seat can be adjusted up and down and front and back.

The cabin has passed ROPS/FOPS certification to protect the operator's safety. The cabin is strong enough to prevent falling rocks and rollovers to protect the operator's safety.

The cabin and frame are fixed with rubber shock absorbers to reduce the vibration of the cabin.

CABIN

ROPS certified according to ISO 3471
FOPS certified according to ISO 3449
Sound-absorbing and flame-retardant interior material (enclosed)
Laminated glass windows (closed)
Washable cabin floor to reduce dust
Three-point entry system for the cabin
Adjustable spring shock-absorbing seat
Adjustable operating handle and armrest
Sound and light alarm
Main power switch



DASHBOARD

Equipped with a 7-inch color display, the vehicle status information and fault alarm information are displayed on a large screen, allowing the operator to spend more time looking at the road

Emergency parking brake button

Fully functional rocker switch

Parking brake button

Key switch

Frame (Chassis)



The frame and water tank can better stabilize the equipment during transportation and operation.

The heavy-duty design of the frame and cabin minimizes the damage from impact and collision with the tunnel wall.

It adopts high-strength alloy Q460C steel plate, optimizes material thickness, reduces dead weight, improves overall transportation capacity, has high structural reliability and long service life.

FRAME (CHASSIS)

Central Hinge	Bearing connection
Tank	Combined with chassis



ELECTRIC

Battery	2 × 12V, 100 Ah
Starter	4.8 kW / 24 V
Dynamo	28 V, 70 A
Speaker Configuration	1 front 1 back
Sensors	-Diesel and hydraulic oil level sensors -Steering and brake system pressure sensor
Monitor	DSE M870 7" LED
Controller	DSE M640
Horn/back-up siren is standard	
Flashing warning lights are standard	
Lighting and Work Lights	
Front Chassis	4 pcs LED
Rear Chassis	2 pcs LED
Turning Signal Lights	4 pcs LED
Brake Lights	2 pcs LED
Warning Lights	4 red and green

INCLUDED SAFETY FEATURES

Portable fire extinguisher (2 pcs 4 kg)
Exhaust pipe insulation cotton protection
Cooling fan guard
Main power switch can be locked
Engine water tank with manual pressure release
Front and rear chassis locking device
Emergency stop button
Hazardous area protection rope
Pedals

STANDARD FEATURES

Manual centralized lubrication system
Manual emergency brake release pump
Closed cabin
Air conditioning and refrigeration system
Air conditioning and heating system



OPTIONS

Automatic centralized lubrication system
Automatic dry powder fire extinguishing
Manual dry powder fire extinguishing
Emergency steering
Front window de-icing function
Driving recorder
Electric emergency brake release pump
Tire pressure monitoring system
Changing tires
Remote control system
Changing tires

DOCUMENTS

Maintenance manual (Turkish - English)
Spare parts manual (Turkish -English)
Operation manual (Turkish - English)

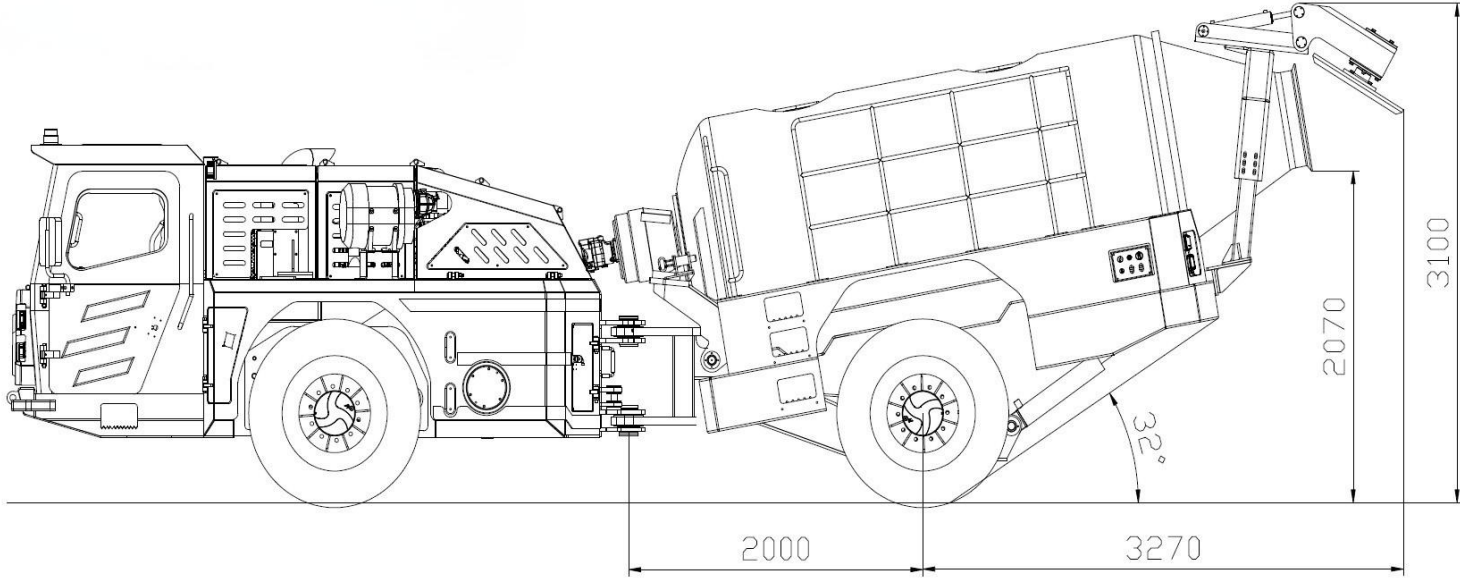
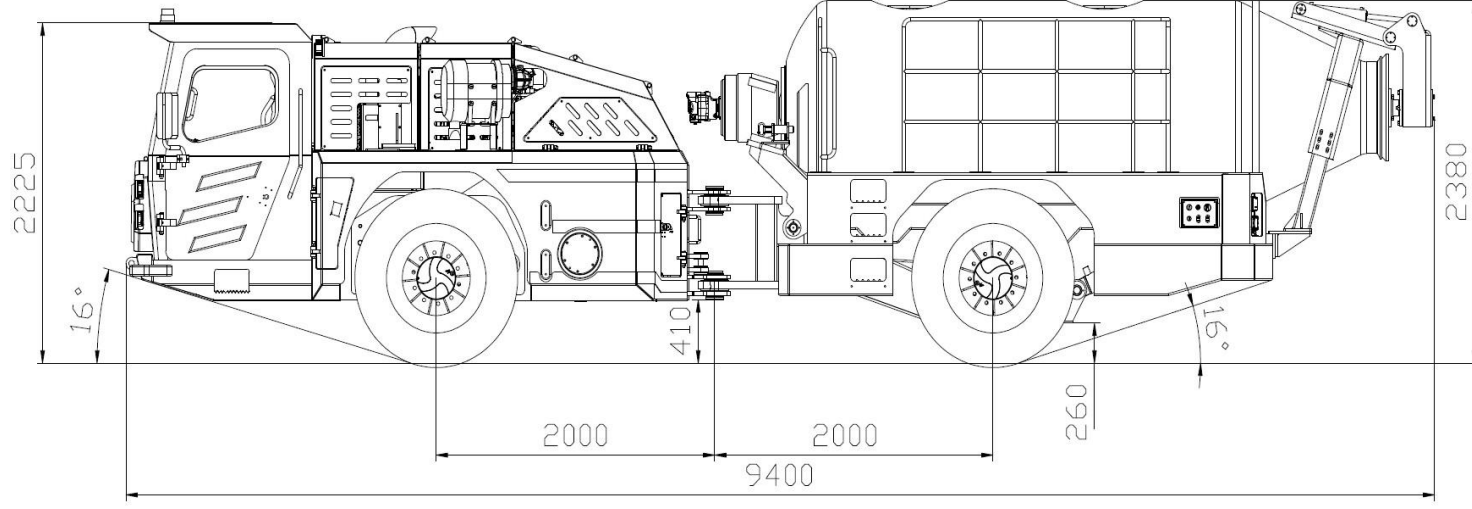


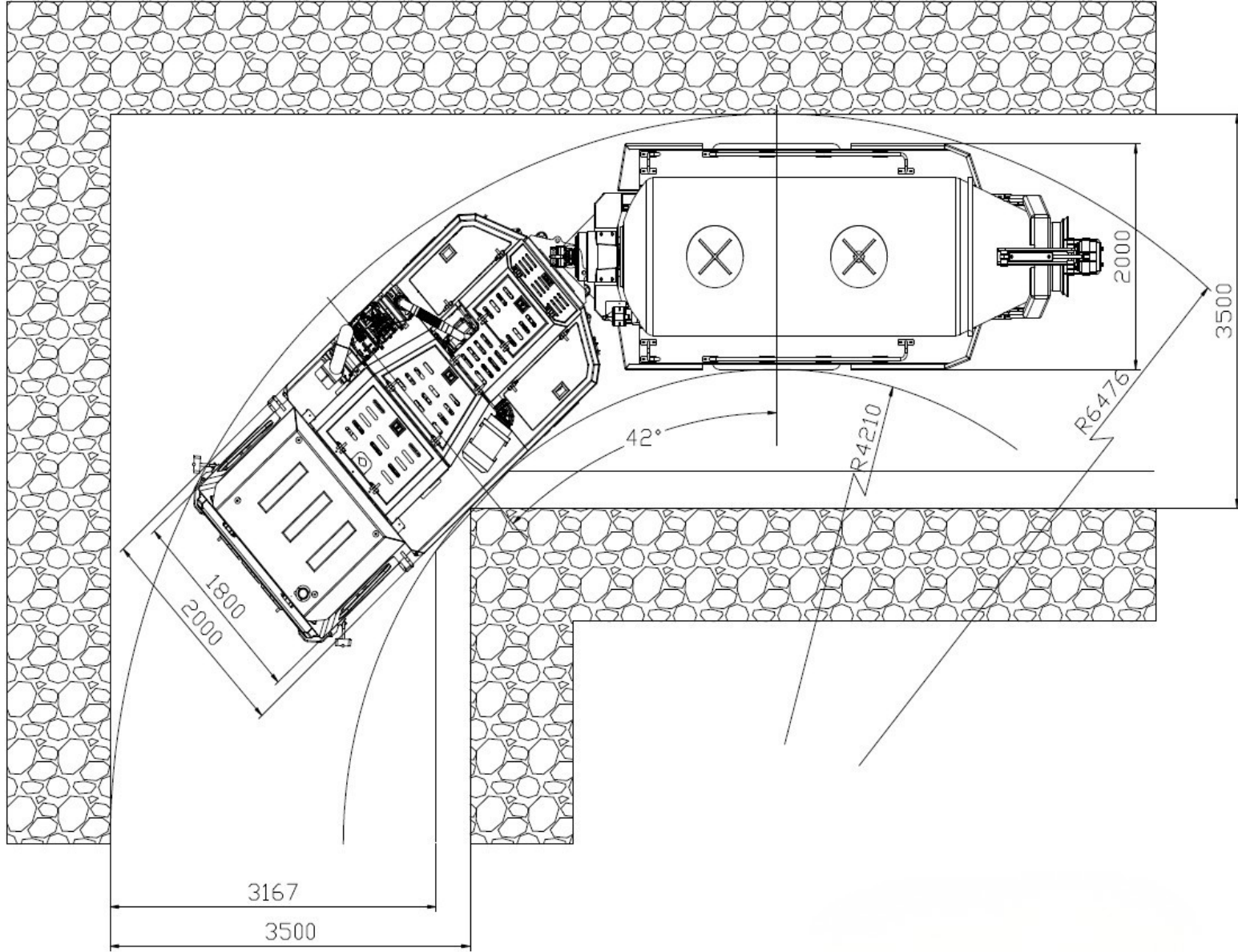
OPTIONAL ENGINE - 1

Model	CUMMINS B7CIV 232
Power	173kW@2000rpm
Max. Torque	949Nm@1200rpm
Cylinder	In Line 6
Electric	24 V
Control System	Electronic fuel injection
Cooling System	Water-cooled engine
Emission	Stage IV
Air Intake	Dry air filtration
Exhaust	DOC+DPF+SCR + urea tank

OPTIONAL ENGINE - 2

Model	VOLVO PENTA TAD 582 VE
Power	160kW@2300rpm
Max. Torque	925Nm@1380rpm
Cylinder	In Line 6
Electric	24 V
Control System	Electronic fuel injection
Cooling System	Water-cooled engine Direct drive fan
Emission	Euro 5 (Stage V)
Air Intake	Low Turbocharge Dry air filtration Prefiltration Two-stage filtration
Exhaust System	DOC + DPF+SCR+ASC







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