



# WJD-4

## Underground Electrical Mining Loader

WJD-4 electric underground mining loader is suitable for 4.1×4.1m mine tunnel. It is highly intelligent, safe and reliable to use, which has good overall machine stability and can greatly improve mine productivity and profitability.

The whole working mechanism adopts Z-Link, which has strong shoveling force. The tail is equipped with an anti-collision plate to effectively improve the anti-collision capability of the device.

The WJD-4 is equipped with a closed cab, which adds a field of view to the left and right rear of the cab, effectively improving the driver's view.

The whole machine is equipped with a liquid crystal display screen, which displays the running parameters of the whole equipment in real time, and provides intelligent alarm warning prompts and automatic fault detection systems.



### MAIN SPECIFICATIONS

Tramming capacity	10 000 kg
Max.Break out force	185kN
Max. Tractive force	210kN
Standard bucket	4.0m <sup>3</sup>
Size	9735x2500x2480 (mm)

### SPEEDS FORWARD & REVERSE

1st gear	2.7km/h
2nd gear	5.8km/h
3rd gear	9.9km/h
4th gear	16.7km/h

### BUCKET MOTION TIMES

Raising time	9.6sec
Lowering time	6.6 sec
Dumping time	3.3sec

### OPERATING WEIGHTS \*

Total operating weight	28000kg
Front axle	12500 kg
Rear axle	14500 kg

### LOADED WEIGHTS \*

Total loaded weight	38000 kg
Front axle	24500 kg
Rear axle	13500kg

\* Unit weight is dependent on the selected options

### OPERATIONAL CONDITIONS AND LIMITS

Environmental temperature	-15°C~+45°C
Standard altitude	operating from -1500 m to +2000 m at 25 °C without rated power derate

### REQUIREMENTS AND COMPLIANCE

JB/T5500 Underground Mining Loader
JB/T5501 Underground Mining Loader Test Method
JB 8518 Underground Mining Loader Safety Requirement
GB25518 Underground Mining Loader Safety Requirement
XY13.1-2013 Underground Mining Loader Company Standard

### POWER TRAIN

#### ELECTRIC MOTOR

Electric motor	HM2-315M-4
Type	Three-phase, squirrel-cage motor
Output	132 kW @ 1480rpm
Working voltage	1000V
Frequency	85A
Rated Current	50 Hz
Efficiency	IP55
Power factor	F

### CONVERTER

Dana C5502 Converter
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### TRANSMISSION

Dana TRANSMISSION	R36420	Electric control shifting Power shift transmission with modulation Integrate shift and steering operation four gears forward and reverse
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### AXLES

Front axle spring applied hydraulic operated brakes	Fixed	Kessler D101 Limited slip differential
Rear axle spring applied hydraulic operated brakes	Self-oscillation frame, Oscillating ± 8°	Kessler D101 Limited slip differential

### TIRES

Tire size	18.00-25 L-5S 32ply
Tire brand	TIANLI

### HYDRAULICS

Equipment cannot move when the cab door is unlocked	Standard
Oil cooler for hydraulic and transmission oil	Capability up to 45°C ambient temperature
Fittings	JIC Standard
Hoses	GB3683
Working Hydraulic oil tank capacity	525L

### STEERING HYDRAULICS

Full hydraulic, centre-point articulation, power steering with two double acting cylinders.	Hydraulic pilot joystick
Steering main valve	Open system
Steering hydraulic cylinders	2 pcs
Steering pump	Gear pump

### BUCKET HYDRAULICS

The oil flow from Steering hydraulic pump is directed to Bucket hydraulics when steering is not used.	Hydraulic Pilot control
Boom system	Z-LINK
Lift cylinders	2 pcs
Dump cylinder	1 pc
Main valve	Open system
Pump for bucket hydraulics	Gear pump

### BRAKES

Service brakes are spring applied; hydraulically operated multidisc wet brakes on all wheels. Integrate service brake, park brake and emergency brake in a whole system. Brake system performance complies with requirements of EN ISO 3450, AS2958.1 and SABS 1589	
Automatic brake activation system, ABA	Standard
Manually driven emergency brake release pump	Standard
Brake oil tank capacity	Share with working oil tank

### OPERATOR'S COMPARTMENT

WJD-4 cab provides superior ergonomic operating space to reduce operator fatigue by increasing legroom and improving pedal position. The front part of the pedal protrudes outward, and the upper front part and the left and right sides protrude outward to make the cab space larger.

WJD-4 cab has passed ROPS/FOPS certification to protect operator safety. The left handle controls the steering function and the right handle integrates the functions of shifting and controlling the working system.

### CABIN

ROPS certification according to ISO 3471
FOPS certification according to ISO 3449
Enclosed Cabin with Air Conditioner (Optional)
Flame resistance and Sound absorbent material to reduce noise (enclosed cab)
Laminated glass windows (enclosed cab)
Air conditioner and cab installed separately (If equipped)
Powered pre-filter for A/C device (If equipped)
Adjustable joysticks and arm rest
Emergency exit
Floor washable with water to reduce dust
Three-point contact access system to cabin
12V/24V output
Master circuit breaker switch

### DASHBOARD AND DISPLAYS

A new 7" colour display with advanced screen functionality has all the needed information and alarms on one large display giving the operator more time to keep eyes on the road. New background graphics with clear symbols are designed for the underground mining environment to reduce eye fatigue, while red zone in display is also designed to not affect night vision during driving.

XINGYE Intelligent Control System Standard	
Instrument Panel	IFM 7" Color display Full-featured rocker switch control



### OPERATOR'S SEAT

The XINGYE XYWJD-4 cabin is fitted with an adjustable mechanical suspension seat with four-point seat belt. The seat can be adjusted back and forth, up and down. New softer padded arm rests and adjustable joysticks can be configured either fixed on the cabin door or on the cabin right side wall

Height adjustment
Adjustment according to the operator's weight
Adjustable arm rests
Adjustable back support
Three-point seat belt

### FRAME

#### REAR AND FRONT FRAME

A new heavy duty rear frame with added weight in the rear of the loader balances the machine perfectly when lifting and pushing into the muck pile. Heavy duty rear frame and mask with integrated reaction bars minimizes damage from wall impacts.

High strength structure with optimized material thicknesses and reduced own weight contribute to higher overall hauling capacity and long structural lifetime.

Welded steel box structures used in the frame and boom provide strong resistance to shock loads and are optimized to reduce stresses and extend frame lifetime

Central hinge	Adjustable bearing
Tanks	Welded to the frame
Boom system	Z-LINK

## ELECTRICAL EQUIPMENT

### MAIN COMPONENTS

Control Voltage	24 V
Cable Length	200m
Startup mode	Star-delta starting
Driving and working lights	LED lights 1PC under boom 2PCS on boom 3PCS in Cabin 4PCS in rear frame
Sensors	Hydraulic oil level sensor, working, steering, and braking system pressure sensor
Alarm	Low oil level warning/ Oil pressure warning Rotation Warning Lamp
Control system	Dual controller Inbuilt system diagnostics
Dual horn configuration	Standard
Red and green indicator lights	4PCS in front and rear frame

## INCLUDED SAFETY FEATURES

### FIRE SAFETY

Portable fire extinguisher	8kg 1PCS
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### ENERGY ISOLATION

Lockable main switch	Standard
Starter isolator	Standard
Emergency stop push buttons	2 pcs rear frame/1 pc cabin
Manual discharge for pressure accumulators	Standard
Frame locking device	Standard
Mechanical boom locking device	Standard

## DOCUMENTATION

### STANDARD MANUALS

Operator' s Manual	English or Chinese
Maintenance Manual	English or Chinese
Parts Manual	English or Chinese
Service and Repair Manual	English
Decals	English or Chinese

## OPTIONS

### SAFETY OPTIONS

Brake release function tow hook
Ansul manual fire extinguishing system and automatic shutdown
Emergency steering

### ELECTRICAL OPTIONS

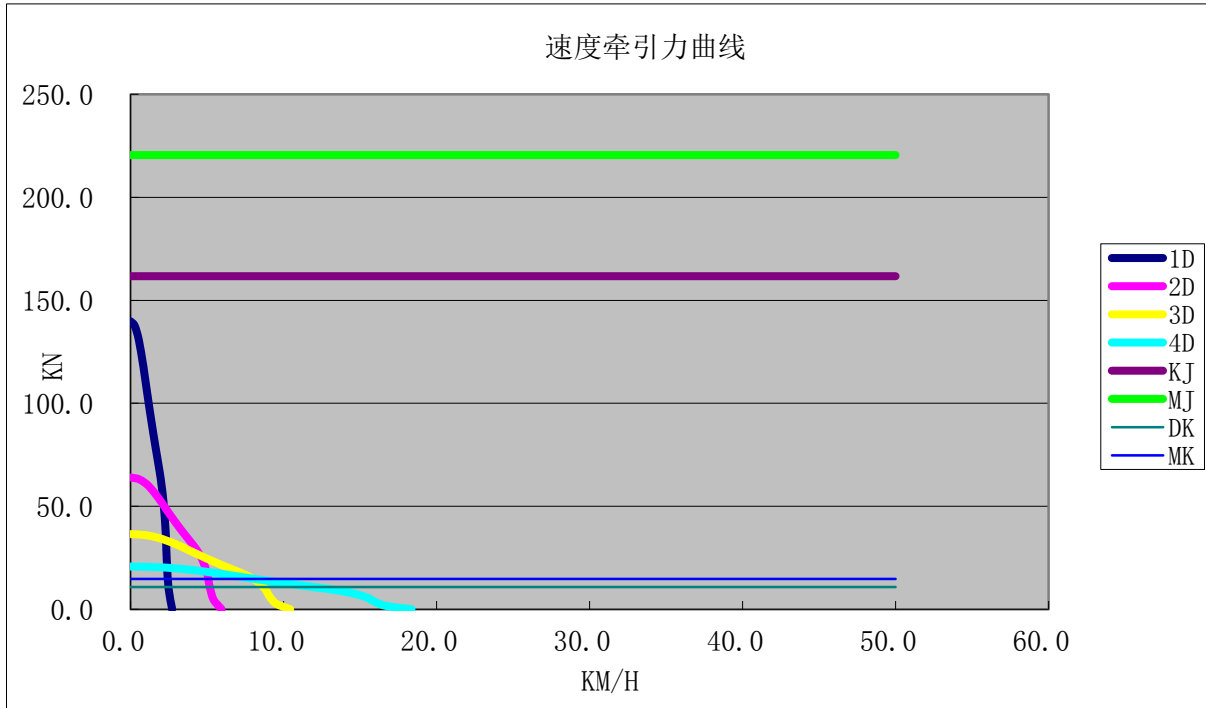
Imaging system
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### OTHER OPTIONS

Enclosed cabin with air conditioner
Heating air conditioner
Customized Bucket Capacity
Wiggins quick filling set for fuel, coolant and oils (hydraulic, engine and transmission)

**GRADE PERFORMANCE**  
**HM2-315M-4 (3 % rolling resistance)**

**EMPTY AND LOADED SPEED**



1D, 2D, 3D, 4D: Gear Positions;  
 KJ is the static friction force at empty load, and MJ is the static friction force at full load;  
 DK is the dynamic friction force at empty load, and DM is the dynamic friction force at full load;



