

HWL5250TYCBYDBEV Multifunctional electric dust control vehicle

一、Product Overview

HWL5250TYCBYDBEV Electric Dust Control Vehicles is manufactured by Hebei Wanli Special Vehicle Manufacturing Co.,Ltd. It is modified based on BYD1250C2BEVC6 Electric cargo chassis. It features multi-function, beautiful appearance, high efficiency, environmental friendly and reliable superior performance.



Front



Rear



Left



Right

二、Basic Feature

It can be applicable for road surface washing, watering, dust control and others function.

The 100% electric dust control vehicle adopted BYD's electric chassis, the superstructure's hydraulic pressure system is driven by electric motor, hydraulic pressure system drives hydraulic pump to produce hydraulic energy to drive fog cannon's up-and-down hydro cylinders, fog cannon moving motors left-to-right rotation to realize various movements: high-voltage power units drives light-duty multi-stage centrifugal pump, then send the water to fog cannon's nozzle, the specialized nozzle to atomizes water, then high-speed fan to make high speed air flow which spray it to realize dust control effect. Meanwhile, low-pressure water system can be realized by permanent magnet synchronous motor(PMSM).

三、Application Scenario

It mainly applied for air dust control and air cleaning for road, public square, park, as well as spraying control for construction demolition&blasting, civil construction, mining and others places which making massive dust.

四、Main Structure and Performance Character

1. Performance Character

①It adopts electric chassis made by famous brand, featuring high endurance mileage and steady performance.

②Tank body structure adopted by finite element design(FEA), to reduced body weight, and increased useful capacity. There is corrosion resistance processing on body surface, manhole cover on the top, water cannon box and water inlet port on the side, ladder stand and level indication on the rare.

③Rear-work platform consists of anti-slip bottom platform and side rail, with the characteristics of high strength, light weight, beautiful appearance.

④Water System including: water pump, front flushing, reverse flushing, rear watering, greening water cannon, etc.

⑤Electric Control System including controller, cab operation panel, alarm and sensing, and electromagnetic selector valve. It can realize communication directly between CAN cable of superstructure controller and CAN cable of cab's operation panel, to obtain control panel's operation info, controller of superstructure will get the parameters info then send them to the operation panel for display.

⑥The fan system of the fog cannon adopts domestically advanced inverter startup technology, replacing the traditional star-delta reduced-voltage startup method. It delivers smoother startup and speed regulation and greatly extends the service life of the chassis storage battery.

⑦Safety and reliability: Equipped with BYD's blade battery Lithium Iron Phosphate(LFP)

2. Structure Character

The pure electric multi-functional dust control vehicle is manufactured by refitting special equipment based on domestically finalized and mature automobile chassis. Modifying parts mainly

including: tank assembly, fog cannon assembly, power assembly, low-pressure water circuit assembly, front platform assembly, rear platform assembly, etc.

①Water tank system: Generally a round or rounded-square steel container used for storing working water.

②Pipes network system: various specialized function can be realized through this system.

③Operation system: Various function conversions are realized through this system.

④Fog cannon device: It sprays the misty water through fans to realize dust suppression.

This vehicle adopts an innovative drive mode for its fog cannon, reducing the curb weight of the whole vehicle. A silencing device is fitted on the fog cannon to cut down pneumatic noise generated during its high-speed rotation, enabling more eco-friendly, energy-saving and low-noise operation. It features a user-friendly human-machine interface, through which all operations can be completed via a monitor and control panel for convenient and flexible manipulation. A low water level alarm system provides automatic alarm protection. Based on the air delivery principle of the high-speed fan on the environmental fog cannon, the equipment boasts a long spraying range, fine mist particles and a large coverage area, and can be controlled manually or remotely. It also comes with water sprinkling and road washing functions to effectively suppress dust emission. The sprayer is equipped with an emergency stop button to ensure safe and reliable operation.

五、Products Technical Specs

项 目 Item		单 位 Unit	参 数 Parameters
Vehicle Paramet ers	G.V.W.	kg	17100
	M.G.W.	kg	25000
	Rated Loading Weight	kg	7770
	Overall Dimension(L×W×H)	mm	10860×2550×3940
	Minimum Ground Clearance	mm	280
	Approach and departure angles	°	16/10
	Water Tank Capacity	m³	13.59
	Water Tank Availability Capacity	m³	12.95
	Water Tank Actual Loading Capacity	m³	13.8
Chassis Paramet	Chassis Mode/Type/Manufacturer	BYD1250C2BEVC6/electric class II chassis BYD	
	Number of Passengers	2	
	Wheelbase	3950+1400mm	

ers	Electric Driving Motors/Model/Manufacturer	Permanent Magnet Synchronous Motor/ TZ365XSD1/BYD
	Electric Driving Motor Rated Power/ Peak Power	250kW/370kW
	Battery Type	Lithium iron phosphate battery
	Battery Capacity	301.67kwh
	Battery Rated Voltage	614.4V
	Model of Motor's controller	KTZ64X44S6AB
	Manufacturer of motor's controller	BYD
	Endurance Mileage(Full Loading, constant speed)	330km
Other	(km/h) Maximum Speed	89
Fob Cannon Paramete r	(m) Cannon spray range	120
	(Kw) Fan Power	55
	(Kw) Water Pump Power	11
	(Mpa) Water Pump Pressure	Centrifugal 1.5-2.0
	(μm) Water mist particle dia	20-200
	Rotary Angle(Electric)	±120°/±180°
	Up and down(Hydraulic)	-10°~50°

六、Product Advantage

1. Smart& High efficiency, energy saving, environment friendly

The 100% electric dust suppression vehicle has features of powerful performance, long spray range, and wide coverage, supporting constant and quantitative atomized spraying with high working efficiency. When operating in dust-prone areas, the equipment sprays fine mist particles. Upon contact with floating dust, these particles form a mist-like particles that rapidly suppresses dust and makes it settle. Compared with other spraying equipment, it can reduce water consumption by 70% to 80%, and its water mist coverage area is far larger than that of other spraying equipment.

3. Reasonable Design, High Reliability

The 100% electric dust suppression vehicle is refitted based on a pure electric Class II chassis equipped with a large-capacity water tank, an efficient long-range fog cannon unit system, a low-pressure flushing and sprinkling system, a hydraulic system, an electronic control system, and special operation devices. Each assembly is reasonably matched, fully meeting all national

regulatory requirements for the chassis of new energy products.

3. High efficiency dust control, multi-functional

Equipped with multi-stage centrifugal water pumps from well-known brands, the flow rate is adjustable, and the spray particles range from 20 to 200 micrometers, delivering excellent dust control performance. It equipped with low-pressure washing equipment, and can complete water sprinkler front washing, rear washing, sprinkler, water cannon, pressure watering, etc. It is equipped with vent ball valves, which can be centrally controlled in the cab and can also be opened independently. It supports both manual and remote control, making operation flexible and convenient.