

万利汽车
WANLI AUTOMOBILE



Brochure of Pure Electric Water Sprinkler Truck

HWL5181GSSDBEV型

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河北万利特种车辆制造有限公司
HEBEI WANLI SPECIAL VEHICLE MANUFACTURING CO.,LTD

一、 Product Overview

The pure electric cleaning vehicle under the sanitation vehicle series of Hebei Wanli Special Vehicle Manufacturing Co., Ltd. is a new generation of special equipment independently designed and developed by our company. It features independent intellectual property rights and world-leading technology, dedicated to road surface cleaning, curb washing and spray dust suppression. Integrating both low-pressure and high-pressure cleaning functions, this cleaning vehicle uses powerful water jets from its high-pressure spray boom to flush away stubborn attachments on road surfaces. It is characterized by eco-friendliness, comprehensive functions, rational structural design, low energy consumption, wide cleaning coverage and long service life.

Battery Electric Vehicles (BEVs) refer to vehicles that use solely rechargeable batteries as energy storage power source. They rely on batteries to supply electric energy to the motor, which drives the vehicle to move. The rechargeable batteries used in BEVs mainly include lead-acid batteries, nickel-cadmium batteries, nickel-metal hydride batteries and lithium-ion batteries, all of which can power the vehicles. Meanwhile, BEVs store electric energy via batteries to drive the motor for normal operation.

The vehicle is modified on BYD's pure electric chassis, featuring low noise, low energy consumption, easy operation and zero exhaust pollution. It delivers high overall operating efficiency and long continuous working hours, boasts a stylish appearance, and its technology has reached the domestic leading level.



Front



Rear



Left



Right

二、 Function Overview

The pure electric sprinkler truck is a type of low-pressure pump sprinkler vehicle. Built on a standard pure electric Class II chassis, it is equipped with a low-pressure flushing system, forming a special flushing operation vehicle integrating machinery, hydraulics and electrical components.

This vehicle is equipped with an independent low-pressure water system to supply pressurized water for the sprinkler's operation.

Its working principle is as follows: The low-pressure water system adopts a two-stage impeller centrifugal pump, which features high efficiency, wide sprinkling coverage and long water gun range. Optional green irrigation and self-priming functions are also available. The low-pressure water pump is directly driven by the power take-off of the chassis transmission via a transmission shaft.

三、 Scope of Application

1. Cleaning work for road surfaces and curbs of urban roads, expressways, squares, airports, docks, tunnels, bridges, isolation walls and other places.

2. Cleaning and sweeping of main roads at construction sites, factory areas and other similar locations.

四、 Main Structure and Performance Characteristics

1. Chassis

The vehicle adopts BYD's Class II battery electric chassis with well-matched assemblies, fully complying with all national regulatory requirements for new energy vehicle chassis and boasting high reliability.

The power batteries are mounted on the side with narrow brackets, which can meet the refitting requirements of various special upper bodies.

Strong chassis load capacity: twin rear tires, maximum gradeability exceeding 30%, suitable for operation on all types of road conditions.

2. Central control device

The cab comes standard with central locking and an MP5 player, as well as wrapped aviation airbag shock-absorbing seats filled with high-density sponge. More

than 10 storage compartments including cup holders, card slots and storage boxes are equipped to deliver a comfortable driving and riding experience.

3. Lightweight Design

Lightweight design for the complete vehicle with a maximum gross mass of 18000kg.

4. Power Battery

Equipped with large-capacity power batteries to meet the application requirements of various sanitation sprinklers and garbage collection vehicles. The power batteries are standardly fitted with a water-circulating thermal management system, enabling the vehicles to operate reliably under diverse environmental conditions

5. Power Take-off interface for Superstructure

Equipped with high-power power supply interfaces for superstructures, it meets the electrification requirements of superstructures for all types of special vehicles.

6. Eco-friendly & Energy-saving

Zero pollution, low noise, effective environmental protection, fuel energy conservation and lower operating costs.

7. Intelligent System

Sedan-style interior and comfort configurations, electronic control systems.

Safe and Reliable: Equipped with BYD's high-end domestic battery brand.

Additional configurations: Main power switch, battery heating system.

The vehicle is equipped with a large-capacity battery, enabling worry-free long-hour operations.

五、 Main Technical Parameters of the Product

Item		Parameter
Announcemen Number by MIIT	Wanli's Vehicle Announcement Number by MIIT	HWL5181GSSDBEV
	Chassis Announcement Number by MIIT	BYD1180C2BEVC2
Mass Parameters	Maximum Gross Mass(kg)	18000
	Curb Mass(kg)	9140
	Rated Payload Mass (kg)	8730
Dimension Parameters	Overall Vehicle Dimensions (mm)	9050,8500×2550,2530×3280
	Wheelbase (mm)	4500
	Front Track / Rear Track (mm)	2055/1860
	Front Overhang / Rear	1600/2400

	Overhang (mm)		
Power Battery	Battery Type		Lithium Iron Phosphate
	Battery Manufacturer		Fudi Battery Co., Ltd. (Assembly)
	Battery Capacity (kWh)		172.108,203.98
	Nominal Voltage (V)		518.4,614.4
Motor	Manufacturer / Model		BYD Auto Industry Co., Ltd. /TZ370XSA
	Type		Permanent Magnet Synchronous Motor
	Rated / Peak Power (kW)		160/250
	Rated/Peak Rotational Speed (r/min)		2315/4500
	Rated / Peak Torque (N·m)		660/1060
Other Parameters	Maximum Speed (km/h)		89
	Driving Range (Constant Speed Method) (km)		265,315
	Approach/Departure Angle (°)		12/11, 16/11
	Number of People in the Cab		2
Tank Parameters	Tank Thickness / Coating (mm)		4
	Total Volume of Tank (m³)		9.16
	Tank Material		Stainless Steel
	Low-pressure	Type	Two-stage impeller centrifugal type
		Brand	Weilong
		Model	65QZ-50/110N
	Water Pump	Head	110(m)
		Rotational Speed	3250(r/min)
	Low-pressure Flushing	Flushing Width (m)	24
		Rear Sprinkling Width (m)	14
		Platform Anti-aircraft Gun Range (m)	27-40
		Low-pressure Flushing Operation Speed (km/h)	15-30
		Maximum Flushing	700000

		Capacity(m ² /h)	
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六、 Main Structure and Performance Characteristics

1. Zero Emission

Battery electric vehicles run on electricity and produce no exhaust emissions while driving, thus causing no environmental pollution.

2. High Energy Utilization Efficiency

Studies show that the energy utilization efficiency of processing the same crude oil through rough refining, supplying it to power plants for electricity generation, storing the power in batteries, and then powering vehicles with those batteries is higher than refining the crude oil into gasoline and using gasoline engines to drive cars.

3. Simple Structure

It only adopts electric energy as the sole power source, eliminating fuel tanks, engines, transmissions, cooling systems and exhaust systems. Compared with the internal combustion gasoline power systems of conventional vehicles, its structure is greatly simplified.

4. Low Noise

Low vibration and noise are generated during driving, making the interior and exterior of the vehicle extremely quiet.

5. Wide Range of Raw Materials

The electricity used can be obtained from a variety of primary energy sources such as coal, nuclear energy and hydropower, easing people's concerns about the gradual depletion of petroleum resources.