

# Chengli Special Automobile Co., Ltd



## ISUZU road washing sweeper truck

- Professional manufacturer of Vacuum cleaner truck, road sweeper, road washing sweeping truck
- China's leading enterprise of sanitation vehicles
- China's top 500 manufacturing companies

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## One、Company Profile



Chengli Automobile Group Co., Ltd. is a large-scale automobile manufacturing enterprise designated by the Ministry of Industry and Information Technology of China to produce various special-purpose vehicles. The company is located in Suizhou, Hubei, the capital of special-purpose vehicles in China, the hometown of Emperor Yandi Shennong, and the hometown of ancient chime bells. ——Shiyan, east to the cradle of talent training——  
——Wuhan.

The Han-Shi Expressway runs through its three beautiful metropolises, providing a unique and favorable platform for Hubei Chengli Company. Suizhou City, Hubei Province, in the southern suburb of Zengdu District, Suizhou City, has a manufacturing base in Zengdu Economic and Technological Development Zone.

The company has total assets of 2 billion yuan, covers an area of more than 1,000 mu, and has more than 8,000 employees, including more than 500 technical personnel and more than 2,000 skilled workers. The annual production capacity of special vehicles is 100,000 units.

The company has signed industry-university-research cooperation agreements with Huazhong University of Science and Technology, Wuhan

University of Technology, Wuhan University of Science and Technology and other colleges and universities, and exports more than 500 automotive talents to the society every year through professional vocational and technical training. .

As a large-scale automobile manufacturing group with "China Famous Trademark", "Hubei Famous Brand", "National High-tech Enterprise" and "China's Top 500 Private Enterprises", it undertakes the major mission of promoting the development of special vehicles in China.

Chengli special vehicles under Chengli Group have an important share in the domestic and international markets. The leading products are: various sprinklers, garbage trucks, sewage suction trucks, sweepers, oil tankers, chemical vehicles, wreckers, aerial work vehicles , fire trucks, truck cranes, refrigerated trucks, vans, pressure vessels, road maintenance vehicles, flatbed trucks, bulk grain trucks, dry-mixed mortar trucks, beekeeping trucks, stage trucks, propaganda vehicles, mobile vending vehicles, heavy duty trucks There are more than 800 varieties of various series such as truck-mounted cranes, cement pump trucks, medicine transport vehicles, and food transport vehicles.

The company now has more than 2,000 large-scale production equipment (sets) and more than 200 sets of testing equipment, of which some processing centers and production lines are at the leading level at home and abroad.

The special vehicle company has passed: ISO9001-2008 quality management, ISO 14001 environmental management, OHSAS18001 occupational health and safety management system certification, 3C compulsory certification, automobile energy saving and environmental protection certification, automobile exemption certification, American mechanical engineer Asmi ( ASME) certification, EU agreement ADR certification.

The production licenses for special purpose vehicles include: A2, C2, C3 pressure vessels, truck mounted cranes, truck cranes, and fire trucks. The company has more than 100 independent innovative products that have obtained national patents, including "vehicle-mounted sewage purification and treatment device", "air supply lighting fire truck"

Other projects have won the third prize of scientific and technological progress, and more than 840 "Cheng Liwei" brand products have been included in the national announcement catalog.

The company obtained the passenger car production qualification through the acquisition of "Hubei Dali Special Purpose Vehicle Manufacturing Co., Ltd.", and the current situation of school buses, public buses and new energy buses is good.

The company's newly developed new energy pure electric sprinkler and pure electric sanitation vehicle series products have been launched, and the user's use effect is good.

The company within the company group, "Chengli Heavy Industry Co., Ltd." located in Wuhan, is preparing to mass-produce natural gas and hybrid vehicles.

The company's products sell well in 29 provinces, municipalities and autonomous regions across the country, and are exported to more than 100 countries and regions such as Africa, Asia, South America, Oceania, and America.

The market share of leading products is more than 20%, and today's products are exported to more than 130 countries in the world.

The company is currently ranked first in China's special-purpose vehicle capital, China's special-purpose vehicle industry, in terms of market share, output value, profit and tax, and development speed.

Among them, the sales volume of sprinkler vehicles has ranked first in the country for four consecutive years, and the sales volume of sanitation vehicles has ranked first in China for three consecutive years.

The company has been rated as an AAA enterprise by financial institutions, as a "contract-honoring and credit-worthy" enterprise by the Hubei Provincial Administration for Industry and Commerce, and as a "development potential enterprise" and "national high-tech enterprise" by the Hubei Provincial Department of Science and Technology;

The company's party committee was rated as "Top 100 Party Organizations of Non-public Enterprises in the Province" by the Organization Department of Hubei Provincial Party Committee, and honorary titles such as "Outstanding Private Enterprises in Hubei Province" were awarded by the provincial party committee

and the provincial government; the company's "Cheng Liwei" brand sprinkler was awarded Rated as a famous brand product in Hubei Province;

The company's brand "Cheng Liwei" has been awarded the Hubei Famous Trademark and China Famous Trademark.

Integrity casts the future! We deeply feel the necessity of "cooperative development and common improvement", and welcome to use our products.

**营业执照**  
(副本) (1-4)  
统一社会信用代码 91421300MA48BMP00J

名称	程力汽车集团股份有限公司
类型	其他股份有限公司(非上市)
住所	随州市曾都经济开发区
法定代表人	程阿罗
注册资本	壹亿圆整
成立日期	2016年09月26日
营业期限	长期
经营范围	汽车整车、专用汽车、随车起重机、汽车车身、车架、车桥、车厢及汽车零部件的制造、销售；金属罐体(含A2、C2、C3压力容器)、塑料罐体、化工防腐设备的制造、销售；汽车起重机、专用客车、新能源汽车、消防车、医疗车、救护车、环卫设备制造、销售；汽车、专业汽车技术研发及技术转让；汽车、专用汽车及零部件进出口业务；医疗器械零售。(以上经营项目均不含国家限制、禁止及需取得前置许可的经营项目，涉及许可经营项目，应取得相关部门许可后并按许可项目方可经营)

登记机关  
2018年08月01日

企业信用信息公示系统网址: <http://hb.gsxt.gov.cn>

中华人民共和国国家工商行政管理总局监制

## **Two, Isuzu series washing and sweeping car structure, function overview**

Chengli Automobile Group Co., Ltd. sanitation vehicle Isuzu series high-efficiency vacuum cleaning vehicle is a new generation of special equipment for road surface, curb cleaning, sweeping and spray dust reduction designed and developed by our company, with independent intellectual property rights and international leading technology.

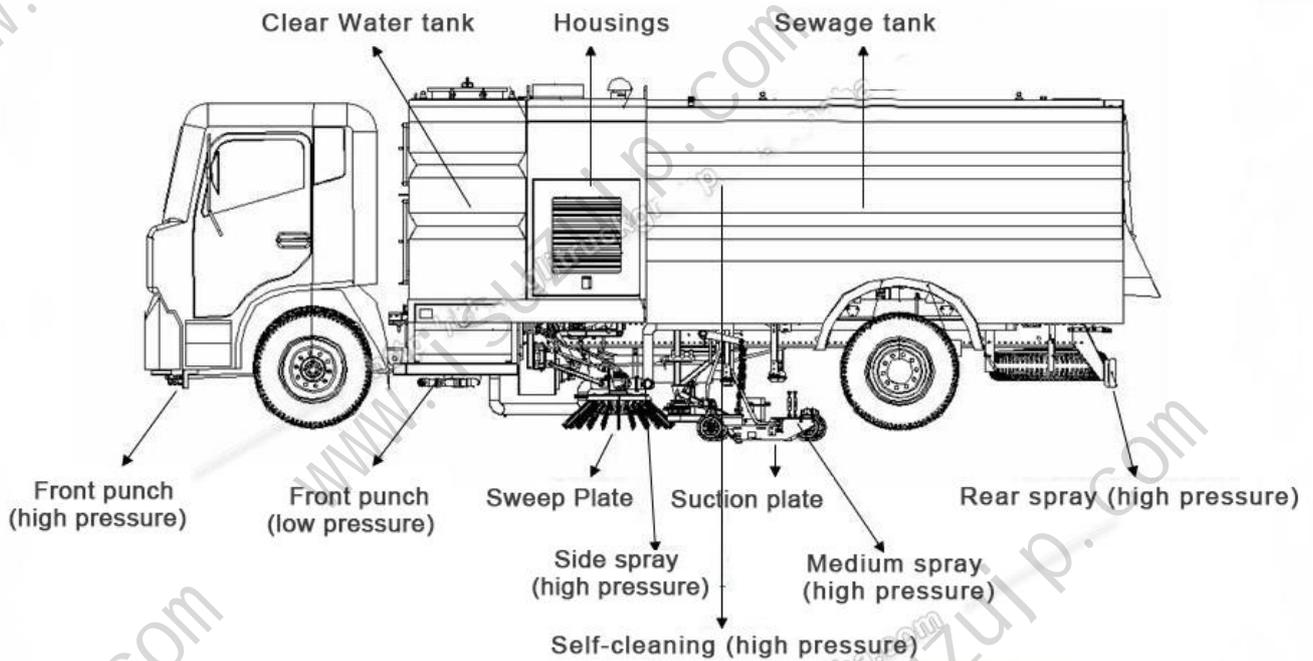
This road sweeping and washing truck combines the functional characteristics of road sweepers and high-pressure cleaning trucks, and solves the short board that vacuum cleaners cannot clean curbs on urban roads, and uses sweeping brushes to sweep the ground garbage to the truck during operation. On the inside, the stubborn attachments on the road are washed up by the water jetted by the high-pressure water spray rod, and then sucked into the garbage bin by the suction cup for storage.

It has the characteristics of green environmental protection, complete functions, reasonable design, low energy consumption, large cleaning range and long service life.

### **(1) Scope of application**

1. Daily cleaning of urban roads, highways, squares, airports, docks, tunnels, bridges, partition walls and other pavements and roadsides.
2. Cleaning and cleaning of main roads such as construction sites and factories.

## (2) Structural design and components



It

is composed of cleaning operation part and walking part. Including the second-class car chassis, sub-beam, auxiliary engine, fan, clutch, high-pressure water pump, sprinkler pump, clean water tank, auxiliary engine compartment, rear water tank + garbage can, sweeper, suction cup, combined spray boom, hydraulic system, It is composed of electric control system, water system, air system, front flush, rear spray, self-cleaning device, etc.

(3) Product function

introduction and display

1. Sweeping



**Working principle:** The auxiliary engine drives the hydraulic oil pump, the high-pressure water pump and the fan to work. The hydraulic oil pump drives the left and right sweeping discs to extend, lift and rotate. The left and right sweeping brushes sweep the garbage on both sides to the front of the suction disc driven by the rotation of the sweeping disc. Pipeline control valve, etc.

The fan-shaped water curtain sprayed by the fan-shaped high-pressure nozzle forms a U-shaped water jet with a total width of not less than 3.5m to flush the ground attachments. The suction cup uses the negative pressure generated by the fan to suck the garbage into the garbage bin through the air duct for storage.

According to the operating environment, the right vertical sweep can be independently controlled, and there are 4 operating modes to choose from: "full cleaning", "right cleaning", "full cleaning" and "right cleaning".。

**2. Curb and curb stone facade washing:** During the cleaning operation, for the sidewalks and facade walls that are higher than the road surface, the ball valves on the roadside cleaning elbows on the left and right spray bars can be opened, and the high-pressure water is sprayed through the spray pipes to form high-pressure water. Curtains can complete curb and curb stone facade scrubbing.



**3. Rear spray foggy dust reduction:** There is a spray boom under the dust bin at the rear of the sweeper, which is equipped with multiple spray nozzles.

In order to avoid secondary pollution caused by the dust raised by the vehicle during the operation, the rear spray switch can be turned on, and the high-pressure water flows through the nozzle and sprays out in a mist form, and sprinkles on the ground, which

can effectively reduce the floating dust in the bottom air and achieve the purpose of purifying the air.。



**4. Low pressure flushing:** For roads with a clean environment, the low-pressure flushing function can be activated, and the sprinkler pump is driven by the chassis power take-off to realize the low-pressure flushing function of the sprinkler.



**5. high pressure cleaning:** The whole vehicle is equipped with a 20-meter automatic winding reel and a high-pressure long gun, which is convenient for users to park and clean the vehicle, keep the vehicle clean, and avoid the accumulation of dust and cause blockage of the oil and gas circuits, which will affect the service life of the vehicle.



**6.Truck front spot flushing device:** Driven by a high-pressure water pump, it can cooperate with the cleaning operation. In the early stage, the fixed-point dirt on the road can be washed and cleaned, and the dust can be avoided during the cleaning operation. It can also be used with low-pressure flushing operations on relatively clean roads to reduce dryness of the road surface.



**7.Self-cleaning function:** In order to avoid the solid waste residue in the waste bin being adsorbed in the box during the ash dumping process, which will cause corrosion of the box for a long time and affect the service life of the product, a self-cleaning nozzle is installed in the box, and the high-pressure water flow generated can remove the waste residue. All out of the box.



Chengli's washing and sweeping truck is a new concept sanitation product that saves time, money, labor, high efficiency, energy saving and environmental protection.

## 8. Product advantages

### 1. High performance and environmental protection

The high-efficiency sweeper uses high-pressure water flow and inclined sweeping brushes to sweep the garbage to the front of the suction cup. Under the negative pressure generated by the fan, the air flow sucks the garbage into the garbage bin in a closed circuit for storage. The entire operation process is based on physical principles. It will cause secondary pollution to the environment due to the leakage of chemical waste or garbage.

At the same time, the dust reduction of the post-spray effectively reduces the dust concentration in the air and solves the problem of dust pollution.

The cleanliness of cleaning is high. The complete functions of this model can solve the operation of different road environments. The cleaning efficiency of one operation is more than 98%. The central suction cup + left and right side spray rod cleaning method can clean the dust and garbage on the road, grooves, bends, road edges, etc., to ensure a clean and tidy environment.

### 2. Preparation of high

(1) Chassis: The original Dongfeng National VI 3800 wheelbase class II chassis is adopted, with high configuration, strong power, strong

climbing ability, and strengthened design treatment of all parts, stable quality and perfect after-sales service system.

(2) Upper body: 2 sweeping discs in the middle and suction cups in the middle. Liwo hydraulic cycloid motor, maintenance-free centrifugal fan, German Pinfu high-pressure water pump (front flushing/side spraying/middle spraying/rear spraying/side flushing vehicle water gun/dust bin self-cleaning device), universal high-pressure road edge cleaning, 100 million Feng low pressure water pump, Xinxishan electronic diaphragm water pump, stainless steel water tank and stainless steel trash can. Stainless steel high-pressure pipeline, Siemens control switch, tail LED arrow light, oil, garbage can, water tank with anti-overflow or low water level voice alarm device. Indoor monitor for reversing and cleaning status, 20m high pressure washing reel. (Optional configuration: The above models can be equipped with snow shovels, snow rolls, and road washing devices)

(3) Combined with structural mechanics and aesthetic concepts, the water tank and garbage can are made of 201 stainless steel material after CNC bending and welding at one time, with high processing precision, reliable quality, neat and beautiful, which not only ensures the structural strength of the whole vehicle, but also meets

the needs of users. Aesthetic needs; the whole vehicle spraying process adopts the imported passenger car spraying process as the standard, which has strong craftsmanship, high surface finish and reliability, and will not fade for more than 3-5 years. Process design, obvious layers, strong three-dimensional sense.。

(1) Electronic control system: CAN bus electronic control control system (including one-key operating system, two operating systems at the cab and rear, working voice broadcasting system and alarm system, and two monitoring systems on the right and rear of the cab), which is convenient for The driver observes the surrounding conditions and operation status of the vehicle in real time during the traveling of the vehicle, and adjusts the operation mode, which is highly safe.



#### (5) High-efficiency centrifugal fan

High-efficiency maintenance-free centrifugal fan, high fan efficiency and long service life, the blade material is made of special steel, and its special blade shape is extremely difficult to wear.



(6) Convenient PTO interface

The auxiliary engine adopts Cummins B140. The auxiliary engine directly drives the hydraulic pump through the side power take-off port (PTO port), which improves the transmission efficiency, reduces the transition of the support seat, saves fuel consumption, reduces the user's operating cost, and effectively reduces the failure rate.



2. Wide range of work

From tens of microns of dust to 80-100mm of stones, bricks, leaves, drinking water bottles and other debris, all of them can be removed in one operation. The road cleaning width is 3200mm, and the cleaning capacity is 50000m<sup>2</sup>/h-70000m<sup>2</sup>/h.

3.3. Simple structure and few wearing parts

More than 90% of the parts installed on the vehicle are assembled in a prefabricated way, and each small part is universal and interchangeable, easy to disassemble, easy to replace, low maintenance cost, and high replacement efficiency.

4. The water tank and garbage can have large volume and long working time:

The volume of the water tank can reach 3m<sup>3</sup>, and the total volume of the garbage can is 2m<sup>3</sup>, which is suitable for long-term operation.

**6. Sound after-sales service system:**

The company's after-sales service policy is based on the principle of active return visits. Every six months, groups of customers will be actively visited to check the use of vehicles and conduct maintenance, operation and troubleshooting training on vehicles, so as to eliminate faults in the bud.

To the quality problems raised by customers, the on-site service system is implemented within 24 hours to ensure the normal use of customers and the service life of vehicles. Improve the company's product reputation.

Three, ISUZU NKR 5 ton washing and sweeping truck product configuration parameter pictures

(1) ISUZU NKR 5 ton washing and sweeping truck pictures







(2) ISUZU NKR 5 ton washing and sweeping truck technical parameter

vehicle model		CLW5120TXS6 washing and sweeping truck		Remark
Type II chassis		QL1125SJ8CDC		
wheelbase		3360 mm		
front /rear suspension		1130/2170 mm		
Engine model /power	Chassis engine	4KH1	88kW/120hp	
	auxiliary engine	Cummins B140	103kW	
maximum climbing angle		30%		
Minimum turning diameter		≤16m		
emission		GB3847-2005, GB17691-2018 National VI		
Accelerating outside noise		≤84dB(A), meeting the requirements of the second stage of noise		
top speed		103 km/h		
approach angle		21°		
departure angle		12°		
Braking distance		≤10 m		
Quality parameters	curb weight	7445 kg		
	maximum total mass	11995 kg		
Size parameters	Dimensions (length × width × high)	7000×2200, 2700mm		
	Minimum ground clearance	250 mm		
high pressure cleaning	cleaning speed	3~20 km/h		
	cleaning width	3 m		
	Wash water pressure	10 MPa		
	Pump flow	115 L/min		
	cleaning efficiency	≥95%		

Suction operation	Maximum inhalation particle size	110 mm	
	Sweep width	3 m	
	Maximum cleaning capacity	60000 m <sup>3</sup> /h	
	Outer size of disc brush	≥400 mm	
	Sweep travel speed	3-20 km/h	
Tank	Water tank rated capacity	4 m <sup>3</sup>	
trash can	Rated capacity of trash can	4 m <sup>3</sup>	
	Discharge door opening angle	≥45°	
Hydraulic system	Type	Open, electrical control	
	main components	Gear Pumps, Hydraulic Motors, Hydraulic Cylinders, Solenoid Valves	
	System pressure	16 MPa	
	Hydraulic tank capacity	60 L	
	oil temperature	60 °C	
Electrical System	Type	DC12V	
	Voltage	12 V	
	battery	12 V	
High pressure water system	Type	Piston Pump	
	model	German PT40	

	System pressure	10 MPa	
	Rotating speed	1150 r / min	
	Water valve type	Hydraulic high pressure ball valve	
	water valve pressure	7 MPa	
	Nozzle Type	High pressure washing type	
	water filter	filter type	
sprinkler system	The main components	Xinxishan electronic diaphragm pump, water filter, nozzle, etc.	

low pressure water system	model	Yifeng sprinkler pump	
	flow	40 m <sup>3</sup> /h	
	head	50 m	
Sweeping device	Type	Two sweeping discs in the middle, driven by hydraulic motor, the speed can be adjusted Adjustable, can be controlled independently, with automatic avoidance function	
	Sweep diameter	800 mm	
	Scanning speed	High Medium Low	
	Sweep angle	Forward : 4-6 degrees Camber : 4-7 degrees	
sucker	Type	Double suction port, hydraulic control, spring suspension.	
	Suction diameter	180 mm	
	Suction cup width	1800 mm	
side boom	V-shaped boom with automatic avoidance function		

## ISUZU NKR 5 ton road sweeping and washing truck:

<https://www.isuzu.jp.com/product/isuzu-4k-engine-6-ton-road-sweeping-machine/>

