

TRUCKS DELIVER LOVE

SANY Intelligent Heavy Truck Industrial Park

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SANY TRUCK |   

www.sanyglobal.com

<https://www.31truck.com/intl/en>

SANY



**SANY HYDROGEN FUEL CELL
HEAVY-DUTY TRUCK**
PRODUCT BROCHURE



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CARBON FOOTPRINT

Currently, it has expanded to all **34** provinces, municipalities, autonomous regions, and direct-controlled municipalities in China. Moreover, it has expanded its reach internationally, exporting to countries including the United States, Mexico, the United Arab Emirates, Jordan, Indonesia, Thailand, India, Russia, Mongolia, and others.

Strategic markets: Europe and Latin America.

DOMESTIC MARKET

OVERSEAS MARKET

STRATEGIC MARKET

■ Sany Truck is the **first brand to enter the United Arab Emirates, Indonesia, and Singapore** in bulk with new energy heavy trucks.

■ Sany Truck plans to establish joint ventures in Indonesia, the United States, Uzbekistan, and other countries.

SANY TRUCK

Sany Truck is the pioneer of Sany Group's digital and intelligent transformation.

At present, it has launched electric heavy trucks, electric light trucks, intelligent battery swapping stations, mobile energy replenishment stations, hydrogen energy heavy trucks, hydrogen production stations, hydrogen storage stations and diesel heavy trucks and other products. After four years of development, SANY's new energy heavy trucks have achieved the highest cumulative sales nationwide, becoming the domestic sales champion.

TOP 1
THE NO.1 BRAND
IN NEW ENERGY HEAVY TRUCKS

TOP 1
THE NO.1 BRAND OF TRUCK
ON THE INTERNET

THE NO.1 IN CHINA
MARKET SHARE OF SANY'S NEW ENERGY HEAVY TRUCK

*SALES RANKINGS BASED ON INDUSTRY TERMINAL COMPULSORY INSURANCE DATA



INTELLIGENT MANUFACTURING

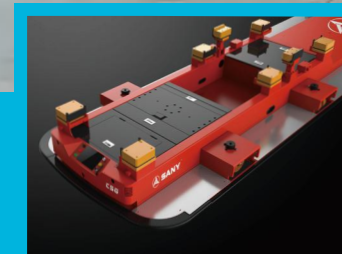


In 2022, Sany Truck officially launched the intelligent heavy truck industrial park, investing over 22 billion yuan. This is Sany's first park fully driven by digital intelligence technology. The factory is fully equipped with 5G communications. The information efficiency is 10 times higher than that of traditional factories, allowing a truck to be completed every six minutes.

It is the most automated heavy truck factory in the world, with an annual production capacity of up to 300,000 units.



3 STEREOSCOPIC
WAREHOUSE



700⁺ AGV



200⁺ ROBOTS

TRAVELING THOUSANDS OF MILES AWAY PROMISING A ZERO- EMISSION FUTURE

Hydrogen Makes Long-Distance Transportation Easier



HYDROGEN FUTURE

Renewable Clean Energy



CLEAN +0 EMISSIONS

Hydrogen is a clean energy source, and the only by-product of its conversion process is water, which is entirely free of carbon and other greenhouse gas emissions.



ULTRA-HIGH CALORIFIC VALUE

Hydrogen has a higher calorific value than all fossil fuels, being three times that of gasoline and nine times that of lignite, and possesses a higher energy density.



HYDROGEN-ELECTRIC COUPLING

Hydrogen and electricity can form a flexible hydrogen-electric coupling energy system with mutual conversion capabilities.



ABUNDANT SOURCES

Hydrogen can be efficiently produced through water electrolysis or purified from industrial by-products containing hydrogen.



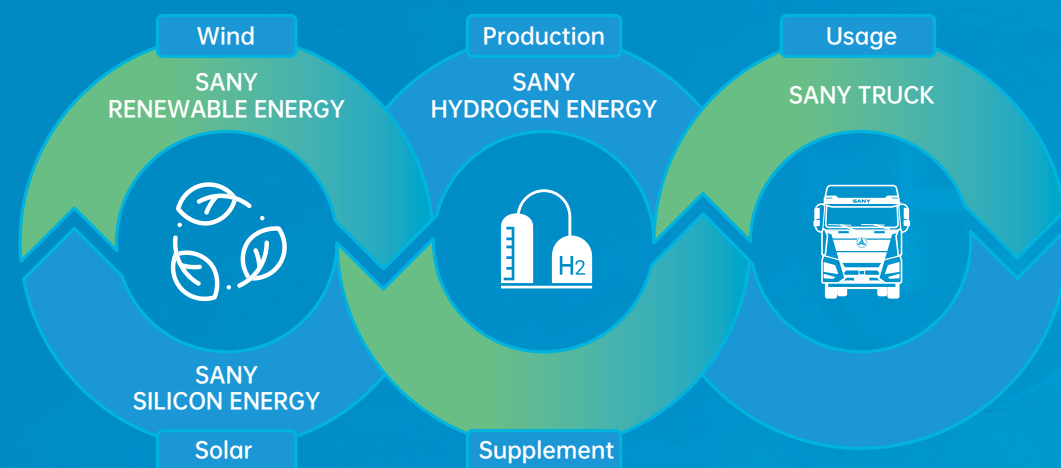
EFFICIENT STORAGE AND TRANSPORTATION

Hydrogen energy can be stored in gaseous, liquid, and solid forms and transported by pipeline, land and sea.

SANY GROUP HYDROGEN ENERGY ECOLOGICAL CHAIN

Wind - Solar- Production- Supplement – Usage

We will accelerate the development of the entire renewable and clean energy industry chain

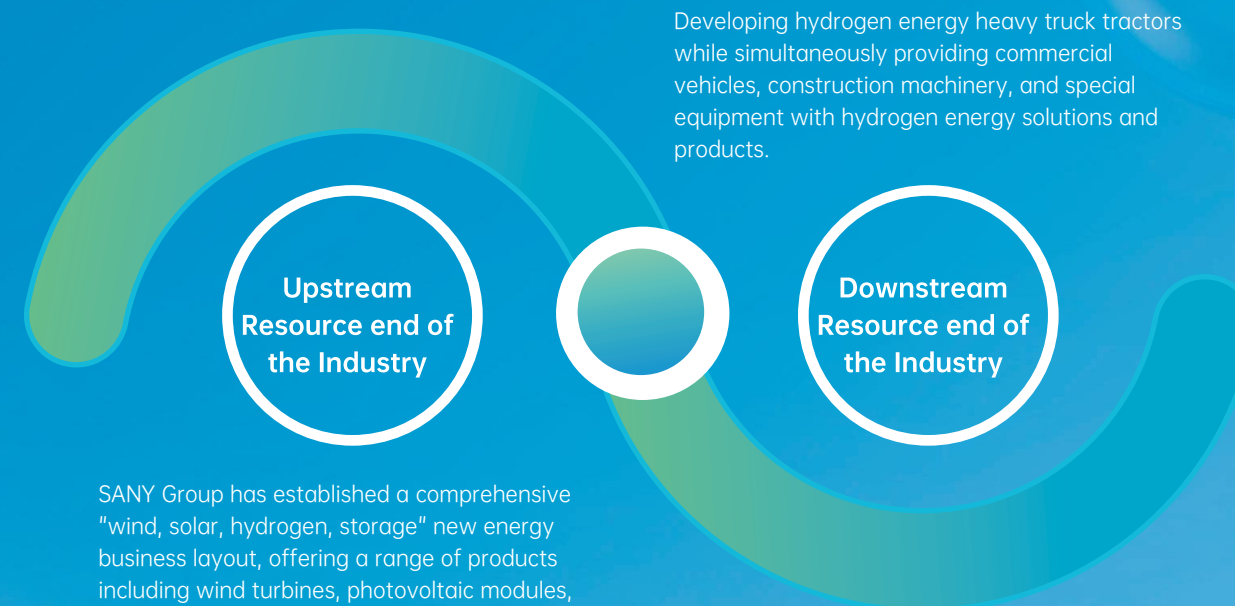


Focusing on the hydrogen energy industry chain, from upstream to downstream

Has declared **100+** national patents

Possessing **20+** core patented technologies

Actively participated in the formulation of **10+** national standards



SANY Group has established a comprehensive "wind, solar, hydrogen, storage" new energy business layout, offering a range of products including wind turbines, photovoltaic modules, hydrogen production electrolyzers, and energy storage solutions. Additionally, SANY Group provides large-scale solutions for green hydrogen production.



FIVE CORE ADVANTAGES

1. Large-Scale Wind and Solar Power System Advantage:

With a 4 x 1000 standard cubic meter all-in-one hydrogen production system, achieving a single-unit 2000 standard cubic meter hydrogen production system, and releasing the world's largest single-unit 3000 standard cubic meter hydrogen production system.

2. Fuel Cell and Electrolyzer BOP System Self-Research and Self-Manufacturing Advantage:

Possessing the capability for independent research and production of 200 kW+ fuel cell engines and 100-6000 standard cubic meter electrolyzer BOP systems across the entire series.

3. Full Chain Testing Platform Advantage:

Owning the world's largest all-in-one hydrogen electrolyzer testing base, as well as comprehensive testing platforms for fuel cell vehicles and engines.

4. Large-Scale Equipment Intelligent Manufacturing Advantage:

Empowered by SANY Group's large-scale equipment manufacturing system, establishing a production line for 300,000 complete vehicles and a 2 GW automated electrolyzer production line.

5. Wind-Solar-Hydrogen Station Coordination Advantage:

SANY Group's low-carbon strategy covers the entire process of 'wind-solar-production-storage-transportation-refueling-usage,' collaboratively building an integrated hydrogen energy ecosystem solution.

SANY HYDROGEN PRODUCTION AND REFUELING INTEGRATED STATION

2000 kg SANY HYDROGEN PRODUCTION AND REFUELING INTEGRATED STATION

The largest national integrated demonstration station for hydrogen production, storage, and refueling, creating a benchmark project that is intensive, safe, technologically advanced, and replicable.

Area: 6300 square meters

Hydrogen Refueling: Refueling capacity of 2000 kg/day

Hydrogen Production: Alkaline electrolyzer with a production capacity of 2000 Nm³/h

Operation: Capable of meeting the operational refueling needs of 100 hydrogen energy logistics vehicles

Hydrogen Production Plant: Includes alkaline electrolyzers, separation systems, purification systems, and more

Equipment Area: Buffer tank, compressor, hydrogen storage tank group, sequential control panel, and more

Hydrogenation zone: Hydrogen dispenser, station control system, safety monitoring system, vehicle identification and scheduling system, and more



MAKING INTERNATIONAL DEBUT, LEADING THE INDUSTRY

SANY "CHANG KONG"

High-Power, Low-Hydrogen-Consumption Hydrogen Fuel Cell Heavy-Duty Truck

1 Energy Management

HYDROGEN STORAGE SYSTEM

- Super-Large Energy Storage
- Sufficient Endurance
- Multiple Protections
- Application Safety
- Fast Energy Replenishment
- Fast and Efficient

THREE ELECTRIC SYSTEMS

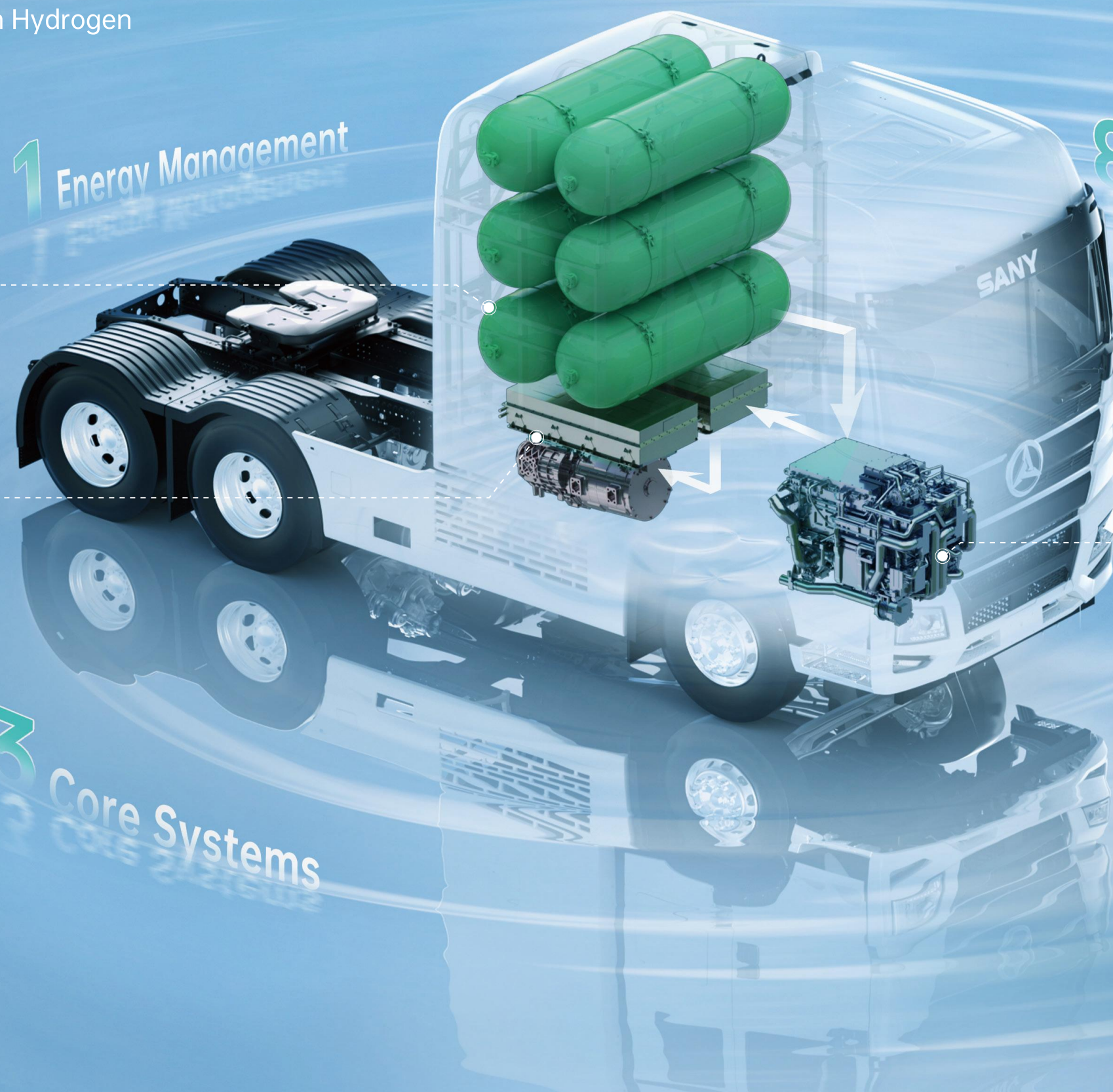
- Higher charge and discharge ratio
- Greater adaptability to the environment
- More intelligent electronic control system

3 Core Systems

8 Performance Guarantees

FUEL CELL SYSTEM

- Ultra-Large System Power
- Ultra-High System Efficiency
- Ultra-High Power Density



1 ENERGY MANAGEMENT

Low Hydrogen Consumption
under Highway Standard
Loading Condition

0.1kg per
Kilometer



INTELLIGENT CONTROL SAFETY AND ENERGY SAVING

[Intelligent Torque Control System] Easier to drive and more energy efficient vehicle

[Intelligent Energy Management System] Optimal energy flow planning based on ADASIS maps, making energy utilization more efficient.

[Long Slope Auxiliary Braking System] Durable electric braking, safer downhill



EFFICIENT INTEGRATION UNIMPEDED PASSAGE

[Integrated Thermal Management Design] Accessories reduce energy consumption by 10%

[Hydrogen Storage System with Type Design] Resistance reduced by 5%

[Vehicle Lightweight Design] The curb mass is less than 11.5 t

8 PERFORMANCE GUARANTEES—ULTIMATE ENDURANCE

500 km+ ULTRA-LONG ENDURANCE

High-efficiency Fuel Cell Power Eliminates Range Anxiety for New Energy Heavy Trucks

Endurance of 500 km+ Under High-Speed Conditions, Under Standard Load

Maximum Hydrogen Storage Capacity **55 kg**

Available hydrogen capacity increased by **37.5%** compared to the industry standard

High Power **200 kW+**

High-efficiency fuel cell system

Hydrogenation Time

Rapid hydrogen refueling in

5-10 minutes



8 PERFORMANCE GUARANTEES—HIGH AVAILABILITY

PROVEN AND RELIABLE HANDLING CHALLENGES WITH EASE

Market Data Validated with Highly Reliable Uptime Assurance



RIGOROUS RELIABILITY VERIFICATION

Ultra long mileage verification
under severe road conditions



THREE TYPES OF EXTREME ENVIRONMENT TESTING

High Temperature ✓ Extreme Cold ✓
High Altitude ✓ Standard Test ✓



FIVE-YEAR WARRANTY FOR CORE COMPONENTS

Worry-free after-sales service

8 PERFORMANCE GUARANTEES—LIGHT WEIGHT & HEAVY LOAD

LOW WEIGHT ULTRA- INTEGRATED VEHICLE DESIGN

Super-integrated Design Concept with Comprehensive Optimization of the Entire Vehicle

The overall weight of the vehicle power system is reduced by **20%**

[VEHICLE LIGHTWEIGHT DESIGN]

High-strength lightweight hydrogen storage frame design

Reduces weight by 15%

[INTEGRATED DESIGN]

Integrated design of vehicle accessories

Increased space utilization



8 PERFORMANCE GUARANTEES—SUPER STRONG DRIVE

STRONG DRIVING FORCE

High-power, High-torque Electric Drive System, Fearlessly Tackling Various Transportation Conditions



[FUEL CELL BATTERY]

System
Rated Power **200 kW** Highest
Efficiency **60%**

[DRIVE MOTOR]

Rated
Power **315 kW** Peak
Power **455 kW**

Peak
Torque **2600 Nm** Maximum
Gradeability **30%**

8 PERFORMANCE GUARANTEES—INTELLIGENT THERMAL MANAGEMENT

PRECISION CONTROL ALGORITHM HIGHLY ENERGY-EFFICIENT

Thermal Management Strategies are Precisely Calibrated,
Fearless of Cold and Heat



[PRECISE THERMAL MANAGEMENT CONTROL ALGORITHM]

Real-Time High-Efficiency Energy-Saving

[HIGH PRESSURE FAN WITH ACCURATE CALIBRATION]

High Flow Energy-Saving Quiet

[HIGHLY EFFICIENT REDUNDANT AIR CONDITIONING AND POWER BATTERY COUPLED COOLING SYSTEM]

8 PERFORMANCE GUARANTEES—HIGH SAFETY

COMPREHENSIVE SAFETY MANAGEMENT WITH MULTI-DIMENSIONAL PROTECTION

Comprehensive Safety Alerts and Real-time Fault Diagnosis, Safeguarding Vehicle Operation

 Hazard Warning Light
Dual Warning System



- ▶ **Hazard Warning Light / Dual Warning System:** Alerts surrounding vehicles to maintain distance and provides early warnings for lane departure and front collision
- ▶ **Real-Time Fault Diagnosis and Interaction:** Automatically selects the optimal control strategy, intelligently avoiding risks, **ensuring safe and comfortable driving**
- ▶ **Dual-Circuit Braking System:** Balances braking efficiency and performance, making regular brakes safer and **emergency braking more reliable**
- ▶ **Hydrogen Storage Tank Uses Type III Bottles:** **35 MPa** rated hydrogen storage pressure, aluminum alloy liner fully wrapped with carbon fiber; **hydrogen tanks have undergone drop, collision, and gunfire tests**
- ▶ **Self-Developed Fuel Cell Battery Management System:** Intelligent diagnostic control system, precise hydrogen control, and **automatic safety protection against hydrogen leakage**

8 PERFORMANCE GUARANTEES—COMFORTABLE DRIVING EXPERIENCE

HIGH-ROOF SPACIOUS CAB

High-roof, zero-pressure space for effortless driving, infusing new energy transportation with exploratory power



OTA Remote Upgrade

7-Inch
LCD Dashboard

12-Inch
Center Control Large Screen

4-Speed
Aluminum AMT Column Shifter

4-Airbag Suspension + Airbag Cushioning Seat

Flat Floor

Over 1.9-Meter
High-Roof Cab



Dual Warning System



Real-Time Fault
Diagnosis System

900 mm Zero-Pressure, Star Hotel-Grade Sleeper

8 PERFORMANCE GUARANTEES—STRINGENT STARTUP

NORMAL STARTUP AT EXTREME LOW TEMPERATURES OF -35°C

Stable Energy Release, Fearless of Extreme Heat and Cold



Lithium manganese oxide battery material for **faster cold start**

Temperature and humidity coupling purge strategy for fast and **intelligent operation**

Operating
Environment **$-35^{\circ}\text{C} \sim 45^{\circ}\text{C}$**



OEM DIRECT SALES

Direct Access Without Middlemen
Transparent and Honest

SERVICE

Create a high-quality, high-capacity "direct sales" iron army, standardize the visit process to effectively improve the quality of customer service, and provide customers with "1V1" personalized in-depth marketing services.

RESPONSE

The local branch company system builds an end-to-end sales and service triangle of marketing-R&D-service. The manufacturer dispatches directly, and the comprehensive response speed is faster; problems go directly to the main engine factory, and the manufacturer covers the entire product life cycle.

COST PERFORMANCE

Manufacturers directly connect with customers, eliminate middlemen, reduce costs, and provide cost-effective products to benefit customers.

MODES

Leveraging the strength of the manufacturer, we flexibly provide various sales models such as whole vehicle sales, separation of vehicle and battery, financial leasing, and joint venture operations according to customer needs.

VISIBLE

Relying on the factory-direct sales model, we open up information nodes throughout the entire process, achieving full visibility of order delivery and making delivery more secure.



OEM DIRECT AFTER SERVICE

1v1 On-site Direct Service
Lifelong Peace of Mind

OEM DIRECT AFTER SERVICE

Industry Exclusive: Breaking the limitations of time and space such as traditional service models, manufacturers directly dispatch R&D and service engineers to provide "one-on-one" butler-style on-site services.

Dedicated service: Dedicated personnel will respond to customer service needs, and designated service engineers will track the entire process; a dedicated team and accessories will accompany you, close to user needs, and handle maintenance issues promptly and efficiently; provide users with professional training on vehicle use, maintenance, etc. at any time.

LIFETIME PROTECTION

Active tracking: Provide multiple active services such as door-to-door visits, telephone return visits, and on-site tours throughout the entire life cycle from product delivery to operation and maintenance to ensure customer satisfaction.

Lifetime service: Provide standardized and unified after-sales service, original parts supply, and free technical support throughout your life.

EXTREMELY FAST RESPONSE

All year round: 365 days a year, 24/7 dedicated personnel accept repair reports, complaints, consultations, all-weather emergency rescue and fault repair services, and respond quickly within 15 minutes.

Own parts library: Each service engineer comes standard with a light truck mobile parts library, which greatly reduces waiting time and improves maintenance efficiency. Solve the problem once and for all, anytime and anywhere.

TECHNICAL SUPPORT

More than 100 technical experts are on call throughout the year to provide customers with professional technical support.

SERVICE TEAM

More than 3,000 front-line maintenance personnel and nearly 1,400 service vehicles are on standby at any time.

SPARE PARTS RESERVE

There are more than 30 powerful brand center warehouses, with a national parts reserve exceeding 100 million yuan. These warehouses cover major provinces across the country and hold more than 7,000 types of vehicle parts in stock.



CUSTOM HYDROGEN ENERGY HEAVY TRUCKS BASED ON SPECIFIC SCENARIOS

We have currently released 15 product models with 10 system manufacturers, including HyP and YHT, accumulating nearly 1 million kilometers of operational mileage.



COMPLETE INDUSTRY CHAIN FOR HYDROGEN ENERGY PRODUCTION, STORAGE, REFUELING, AND APPLICATION

We provide full industry chain services for hydrogen gas production, storage, refueling, and the application of fuel cell vehicles.



PRODUCT
PARAMETERS



CONFIGURATION SHEET				
Vehicle model			HQC42503SWFCEV1	
Maximum Speed (km/h)			89	
Drive Type			6×4	
Wheelbase (mm)			3950+1350	
Curb Weight (kg)			11500	
Overall Dimensions		Length × Width × Height (mm)		7495×2545×3700
		Unladen Saddle Height(mm)		1310
Endurance		Under Standard Load and High-Speed Operating Conditions		500km
POWER SYSTEM				
Electric Motor		315/455kW		●
Transmission		4-Speed AMT Transmission		●
		PTO		Optional Configuration
Gear Shift Lever		Column Shifter		●
Battery		Lithium Manganate (58.8kW·h)		●
Battery Thermal Management System		Vehicle Integrated Chiller Cooling and Self-Heating System		●
Power Battery Charging		Single-Gun Charging (120 kW)		●
Hydrogen Fuel Cell System		200kW+		●
Onboard Hydrogen Storage System		Cylinder Type	385L*6	●
		Working Pressure	35MPa	●
CHASSIS SYSTEM				
Frame		300*80*8_940-850		●
Saddle		90#		●
Front Axle		5.5T		●
Drive Axle		11T (Speed Ratio: 5.143)		●
		Differential Lock	Differential Between Axes	●
			Differential Between Wheels	●
Suspension System		3 in the Front and 4 in the Rear		●
Tyre		12R22.5		●
Rim		Steel Rim		●
Steering System		Steering Gear	HPS	●
		Steering Pump	Dual-Source Electric Power Assist Pump	●
Braking		ABS		●
		ESC		●
		Electric Regenerative Braking		●
CAB				
Cab		High-Roof Standard Cab (Pearl White)	2325*2540*3950	●
Lifting System		Electric-Controlled Lifting		●
Basic Configuration Required		High-Roof and Flat Floor		●
		Dual Side Toolboxes		●
		Exterior Decals and Badging		●
		Four-Point Airbag Full-Floating Suspension		●
		Electric Hand-Press Integrated Pump		●
		Multi-Nozzle Wipers		●
		Double-Layer Integrated Overhead Cabinet		●
		Left and Right Front Sunshade		●
		Left and Right Front Sun Visors		●
		Semi-Wraparound Instrument Panel		●
		Portable Ashtray		●
		Pneumatic Steering Column Adjustment		●
		Single Berth		●
		Coat and Hat Hooks		●

QUALITY CHANGES THE WORLD