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We try to formulate the manual in a comprehensive and detailed way based on the existing information. As SANY Heavy Machinery Co., Ltd. keeps improving and updating its technologies, and modifies and adjusts technical parameters, configuration and other information of products at any time, the product manual is for reference only. The appearance, configuration and technical parameters of the specific model shall be subject to the actual model sold by the agent.

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Quality Changes the World

# SW956E

Electric wheel loader

Overall weight: 19000kg

Rated load capacity: 5800kg

Standard bucket capacity: 3.5m<sup>3</sup>





# SANY Electric Loader

Electric Control & High Power

Maximum traction: 180kN

## Intelligent Control of PEVs Choice of Value

SW956E is a 5.8 t all-round electric loader specially manufactured by SANY. The complete vehicle is powerful, and has fast response, efficient operation, intelligent control, comfortable and convenient service. It is widely used in steel plants, power plants, coal plants, ports, mixing stations and other operating scenarios.

### Economic efficiency

|                           |                                                                                        |
|---------------------------|----------------------------------------------------------------------------------------|
| Save fuel cost —          | <b>RMB 72/hour</b><br><b>RMB 18,000/year</b><br><small>(working for 250 hours)</small> |
| Reduced annual use cost — | <b>RMB 233,700/year</b><br><small>(working for 3,000 hours)</small>                    |
| In 5 years, save —        | <b>RMB 1.17 million</b><br><small>(15,000 hours)</small>                               |

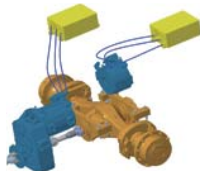
# Best products with best configurations in the industry

## Safe and Reliable



### Battery safety

A high-capacity battery assembly is adopted, which is reasonably arranged, and meets the safety requirements of GB 38031. When collision, extrusion and other special circumstances occur, the housing does not crack, catch fire or explode, ensuring the safety of drivers and passengers.



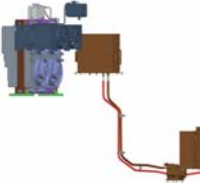
### Motor and electronic control

The motor has the maximum efficiency of 95%, and the peak torque of 2,500 N.m. The protection grade of battery, motor, electronic control system and other key components reaches IP67, thus ensuring the reliable operation in rainy and snowy weather and wading conditions.



### Gearbox

The efficient two-speed gearbox with the aggressive switching and smooth shift is developed independently.



### Heat management

Internationally renowned brand Easily cope with the harsh working conditions of -30℃ ~ 50℃



# Advanced energy-saving technology

## ◎ Brake energy recovery technology

Innovate and lead the energy recovery technology of electric loaders, and convert the kinetic energy into the electric energy for storage during the brake process to reduce the energy consumption of electric loader by 18%.

## ◎ Brake priority

Avoid the brake disc from being worn due to power when braking. Recover more brake energy and reduce the energy consumption. Avoid driver's misoperations to cause an accident. When an abnormal vehicle signal is sent, the brake priority is safer.

## ◎ Intelligent start-stop technology

Create the intelligent start-stop technology in a ground-breaking way. Identify the driver's intention, and stop the pump motor when the vehicle is in a non-working state. It solves the problem of standby energy consumption loss, and reduces the energy consumption of electric loader by 5%.

## ◎ Intelligent temperature control air conditioning system

Adjust the set temperature through the smart screen, automatically maintain the ambient temperature, achieve the variable frequency regulation of refrigeration and heating, and be energy saving and comfortable, safe and reliable.

## ◎ Intelligent battery heat management system

The liquid cooling structure is adopted in the battery for cooling. Based on the target temperature required by the battery, the modes of refrigeration and self-circulation are adopted duly to save energy and reduce consumption. The PID algorithm is used to adjust the rotating speed of compressor and electronic fan in the refrigeration system, to control the temperature precisely, so as to realize the energy-saving control.

## ◎ Electrically-controlled intelligent heat dissipation of motor

The electronic fan achieves the zone control, oil and water radiators are distributed independently with stepless speed regulation, and be quiet and energy-saving.



## Convenient charging

Standard interface: compatible with DC piles of all manufacturers in the market



Super adaptability: support fast charging in extremely cold and hot environments

| Parameter category       | Parameter value          |
|--------------------------|--------------------------|
| Battery capacity         | 282/350kWh <sup>*1</sup> |
| Scope of use environment | -35°C-60°C               |

Fast charging: The theoretical charging time of charging pile of above 300 kW is shorter than 1 h<sup>\*2</sup>

| Charging pile power  | Charging time          |
|----------------------|------------------------|
| 240 kW charging pile | 282 kWh Approx. 75 min |
|                      | 350 kWh Approx. 90 min |
| 300 kW charging pile | 282 kWh Approx. 60 min |
|                      | 350 kWh Approx. 75 min |

Double-gun fast charging: The maximum charging current is 400 A.



<sup>\*1</sup> The 282/350 kWh battery is optional for 5 t models.

<sup>\*2</sup> The required duration for charging from 20% to 100% power in case of double-gun charging under standard test conditions. The actual charging time is affected by the power of charging pile, ambient temperature and altitude.

## Luxury Cab, More Comfortable to Operate and Drive



Pure silence

- ◎ Excellent sealing performance, 10% higher than fuel loader
- ◎ Comfortable drive and noise as low as 68 dB



Low vibration

- ◎ Silicone oil suspension technology, best products with best configurations in the industry, and excellent vibration isolation performance of cab
- ◎ Vibration of electric drive system of new energy vehicle reduced by 30% compared with that of electric drive system of traditional fuel



Super luxury

- ◎ High-power heating and cooling air conditioner, fully meeting the heating and cooling requirements in the ambient temperature range of -30°C-50°C
- ◎ Large-size full HD glass, and panoramic super-large space with a wide view



### ◎ Easy, flexible and quick operation

- Multifunctional integrated handle
- One-button shift, fingertip switching



### ◎ HD display, touch operation

- One-screen viewing of whole machine's information
- Real-time reminder of monitoring information



### ◎ Integrated control, and intelligent and convenient operation

- One-button start and stop
- Graphical integrated soft key

# Ultra-long warranty period

Complete machine: 2 years and 4,000 hours

Electric drive system: 5 years and 10,000 hours

Battery system: 5 years and 10,000 hours



## One Bucket in One Working Condition

The SANY SW956E electric wheel loader can be equipped with 3.1 m, 3.4 m and 3.6 m booms. A variety of special buckets are provided according to the actual working conditions of customers. The standard 3.5 m<sup>3</sup> cutting board bucket is provided, which can be equipped with 9 kinds of serialized buckets, meeting the requirements of "one bucket in one working condition", improving the construction efficiency, easily coping with various complex working conditions and enhancing the product value.

| Boom length (m) | Bucket (m <sup>3</sup> ) | Unloading height of forward shovel (mm) | Unloading distance of forward shovel (mm) | Side unloading height (mm) | Side unloading distance (mm) | Remarks              |
|-----------------|--------------------------|-----------------------------------------|-------------------------------------------|----------------------------|------------------------------|----------------------|
| 3.1             | 2.7                      | 3150                                    | 1080                                      | /                          | /                            | Rock bucket          |
|                 | 3.0                      | 3140                                    | 1130                                      | /                          | /                            | Toothed bucket       |
|                 | 3.2                      | 3070                                    | 1200                                      | /                          | /                            | Cutting board bucket |
|                 | 3.5                      | 3010                                    | 1260                                      | /                          | /                            | Cutting board bucket |
|                 | 2.8                      | 2720                                    | 1415                                      | 4175                       | 70                           | Side dump bucket     |
| 3.4             | 3.0                      | 3465                                    | 1210                                      | /                          | /                            | Toothed bucket       |
|                 | 3.2                      | 3400                                    | 1285                                      | /                          | /                            | Cutting board bucket |
|                 | 3.5                      | 3345                                    | 1345                                      | /                          | /                            | Cutting board bucket |
|                 | 4.0                      | 3260                                    | 1440                                      | /                          | /                            | Cutting board bucket |
|                 | 5.0                      | 3170                                    | 1540                                      | /                          | /                            | Cutting board bucket |
| 3.6             | 3.0                      | 3635                                    | 1200                                      | /                          | /                            | Toothed bucket       |
|                 | 3.2                      | 3560                                    | 1270                                      | /                          | /                            | Cutting board bucket |
|                 | 3.5                      | 3500                                    | 1325                                      | /                          | /                            | Cutting board bucket |
|                 | 4.0                      | 3400                                    | 1410                                      | /                          | /                            | Cutting board bucket |
|                 | 5.0                      | 3310                                    | 1500                                      | /                          | /                            | Cutting board bucket |

2.7 m<sup>3</sup> (rock bucket)



Wood hopper (staggered teeth)



3.0 m<sup>3</sup> toothed bucket



3.2 m<sup>3</sup> cutting board bucket



3.5 m<sup>3</sup> toothed bucket



3.5 m<sup>3</sup> cutting board bucket



4.0 m<sup>3</sup> coal bucket



5.0 m<sup>3</sup> coal bucket

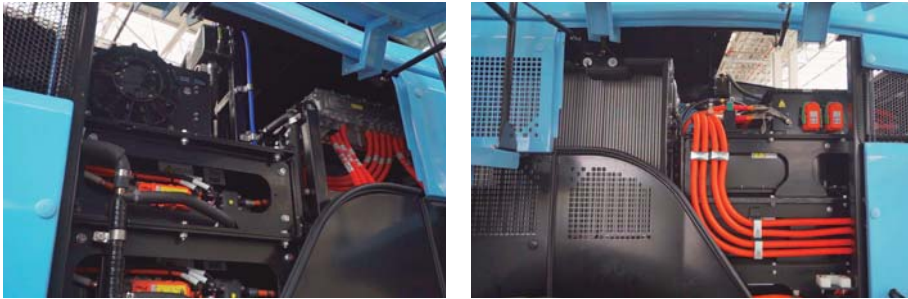


2.8 m<sup>3</sup> side dump bucket



## Refined Improvement

Layout of wiring harness and pipeline: horizontal and vertical layered layout, and be safe and worry-free



## Experimental Durability Upgrade

Strengthened quality, bump resistance and durability



## Digital Service

### Big data cloud

© Cloud monitoring: multiple fault early warnings and predictions via big data, and pushing by client APP in real time to ensure the safety of people and vehicle.



Real-time vehicle data



Early warning and prediction of faults via EEVIA Cloud



EEVIA APP

### User's Mobile Phone Terminal

© Mobile EEVIA APP: one-tap call. The system will assign a service engineer nearby, who will arrive at the scene within 2h.



# Technical Specifications

| Battery                            |                                | Transmission system |                           |
|------------------------------------|--------------------------------|---------------------|---------------------------|
| Battery type                       | Lithium iron phosphate battery | Gearbox             | Electric drive box        |
| Total power                        | 282 kWh/350 kWh (optional)     | Gear                | Speed                     |
| Nominal voltage                    | 618V                           | Driving speed       | Forward gear I 0-16 km/h  |
| Protection grade of battery system | IP67                           | Driving speed       | Forward gear II 0-40 km/h |
|                                    |                                | Driving speed       | Backward gear I 0-16 km/h |

| Traveling motor |         | Working motor |         |
|-----------------|---------|---------------|---------|
| Peak power      | 255kw   | Peak power    | 180kw   |
| Peak speed      | 3500rpm | Peak speed    | 3000rpm |

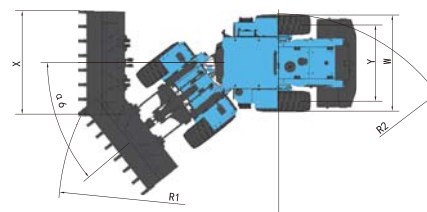
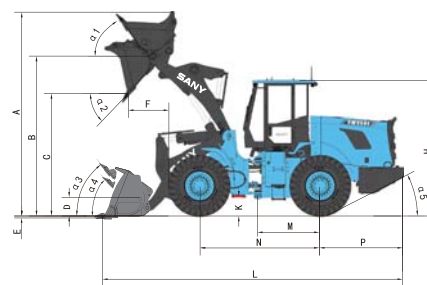
| Operating hydraulic system |                                    | Steering hydraulic system |                               |
|----------------------------|------------------------------------|---------------------------|-------------------------------|
| Type                       | Convergence of oil from both pumps | Type                      | Quantitative hydraulic system |
| Operation mode             | Pilot                              | Steering pump             | Gear pump                     |
| Operating pump             | Gear pump                          | Steering angle            | 38°                           |
| Total cycle time           | 10.5s                              |                           |                               |

| Drive axle and tire |                              | Brake system    |                      |
|---------------------|------------------------------|-----------------|----------------------|
| Drive axle type     | Dry drive axle               | Service braking | Full hydraulic brake |
| Tire specification  | 23.5-25                      | Parking brake   | Hydraulic brake      |
| Tire pressure       | Front/rear wheel:0.4/0.35Mpa |                 |                      |

| Capacity data      |      |                      |     |
|--------------------|------|----------------------|-----|
| Antifreezing fluid | 40L  | Front drive axle oil | 32L |
| Hydraulic oil tank | 220L | Rear drive axle oil  | 32L |

# Technical Specifications

| Main parameters                       | SW956E      |
|---------------------------------------|-------------|
| Weight of complete machine (kg)       | 19000       |
| Rated loading capacity (kg)           | 5800        |
| Bucket capacity (m³)                  | 3.5 (2.7-5) |
| Maximum breakout force of bucket (kN) | 182         |
| Maximum traction (kN)                 | 180         |



| Item (mm)                                          | SW956E |
|----------------------------------------------------|--------|
| A Maximum lifting height                           | 5500   |
| B Hinge-axis height under maximum lifting          | 4416   |
| C Unloading height                                 | 3345   |
| D Transport height                                 | 515    |
| F Unloading distance                               | 1220   |
| H Height of complete vehicle                       | 3560   |
| K Ground clearance                                 | 410    |
| L Length of complete vehicle (with bucket)         | 8560   |
| M Distance from hinge center to rear wheel center  | 1750   |
| N Wheelbase                                        | 3400   |
| P Rear overhang                                    | 2100   |
| α1 Bucket retraction angle at the highest position | 58°    |
| α2 Bucket unloading angle                          | 45°    |
| α3 Bucket retraction angle at transport position   | 53.5°  |
| α4 Bucket retraction angle on ground               | 49°    |
| α5 Departure angle                                 | 28°    |
| α6 Maximum steering angle                          | 38°    |
| W Width of complete vehicle (outside of wheel)     | 2845   |
| X Bucket width                                     | 2960   |
| Y Tread                                            | 2200   |
| R1 Turning radius (outside of bucket)              | 7200   |
| R2 Minimum turning radius (outside of wheel)       | 6350   |

Note: As technologies are constantly updated, materials and technical specifications may subject to change without notice. Machines in the photos may include auxiliary equipment.