



# SY215H

## Rated power

120kW/2000rpm

## Bucket capacity

1.0~1.1m<sup>3</sup>

## Operating weight

21900kg



Strong and powerful



Durable and robust



Comfortable driving



SANY HEAVY MACHINERY LTD

<http://www.SANYglobal.com>

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# Stronger capabilities and expanded options

With a focus on mining operations, the SY215H model by Sany delivers superior reliability and controllability. It has an optimizing cab with comfort and safety advantage.

## Strong and powerful

In the case of engine upgrades, the rated power stands at 120kW/2000rpm, surpassing similar tonnage models in performance.

## Durable and robust

Enhance the durability of structural components to enable the entire machine to withstand high-intensity operating conditions.

## Comfortable driving

Enjoy increased comfort in the upgraded brand new cab with high-power air conditioning and smart display.



# Strong and powerful



Engine model: 4HK1

Engine power: 120 kW/ 2000 rpm

Maximum Torque: 657 N.m/1 500 rpm

Displacement: 5.193 L

## Powerful engine performance

Equipped with the engine meeting Euro III emission standards, rated power of 120kW, high-pressure common rail electronic fuel injection system, providing strong power to help customers tackle heavy-duty operation challenges.

## High efficiency and energy saving

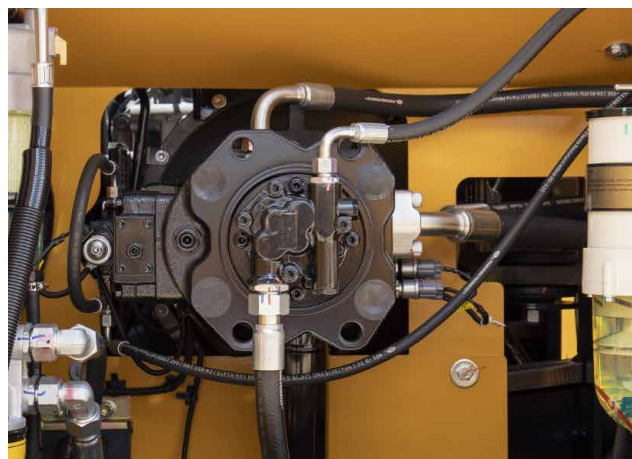
Optimized engine performance curve with SANY's unique self-seeking optimization control technology matches the optimal fuel consumption range and controls speed fluctuation, resulting in lower fuel consumption and smoother operation.

## Monitor the operational status

The display screen provides real-time information on engine operation, maintenance, and alerts, offering timely reminders and protection for easier maintenance.

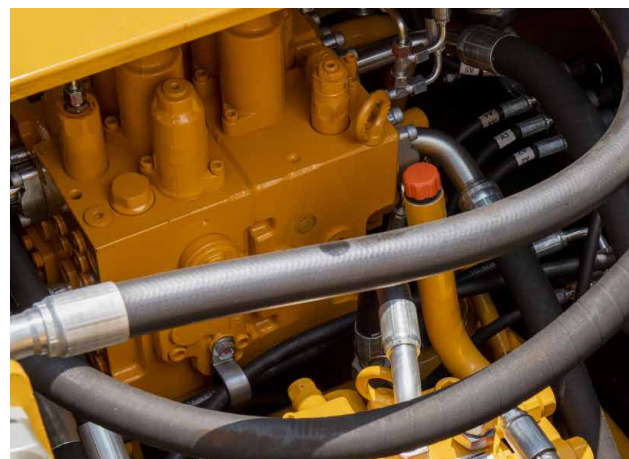


## Strong and powerful



Main pump model: K3V112D  
Displacement: 2X117 cc  
Maximum flow: 2X234 L/min  
Rated pressure: 34.3 MPa

Exclusive customization, SY215H special parallel pump, compared with the traditional series pump, the power output is increased by 10%, the arrangement structure is more compact, and the maintenance is more convenient.



Main valve model: KMX15RB  
Rated flow: 300 L/min  
Rated pressure: 34.3 MPa

The designation is according to the needs of customers, which has "high reliability, small pressure loss, high flow distribution efficiency, smooth compound action" and other outstanding advantages, to help customers easily solve heavy work.



## Durable and robust

With the most advanced international methods, including optimization design of structural members, stress test research of welds and plates, endurance tests, 100% UT detection for key components, and fatigue tests for two axles, the service life of key structural members is comprehensively improved.

### 01 Arm

Arm adopts bottom plate reinforcing bars and forging front support etc. As compared with competitor brands, the stress on main loading point is 30% lower, and the service life is 30% higher under mining conditions.

### 02 Boom

The boom adopts box-type structure with higher strength and is made of high-strength steel plates through advanced welding and molding process. The service life under mining conditions is four times of general boom.

### 03 Bucket

Utilizing load-adaptive technology, increased bucket capacity, and optimized bucket design to enhance digging force, resulting in a 3% increase in workload.

### 04 Stress element

In allusion to the positions with concentrated stress such as oil cylinder connections and boom root etc., special welding process and protection structure are used. The stress on loading point is 20% lower than the competitor.

### 05 Rollers & tracks

Dedicated heavy-duty rollers & tracks is used, and the service life is doubled.





## Comfortable driving

The performance of the new cab in terms of intelligence, comfort and reliability has been greatly improved. The overall design is simple, modern and high-quality, providing users with a good physical and mental environment in terms of vision, touch and psychological feeling.

### 01 Comfort seats

Enlarged, widened and thickened seats with seat extension, seat tilt and lumbar support. Selective distribution heating.

### 02 Smart display

10" touch screen, bluetooth, USB charging, integrated radio A/C control.

### 03 Quick operation

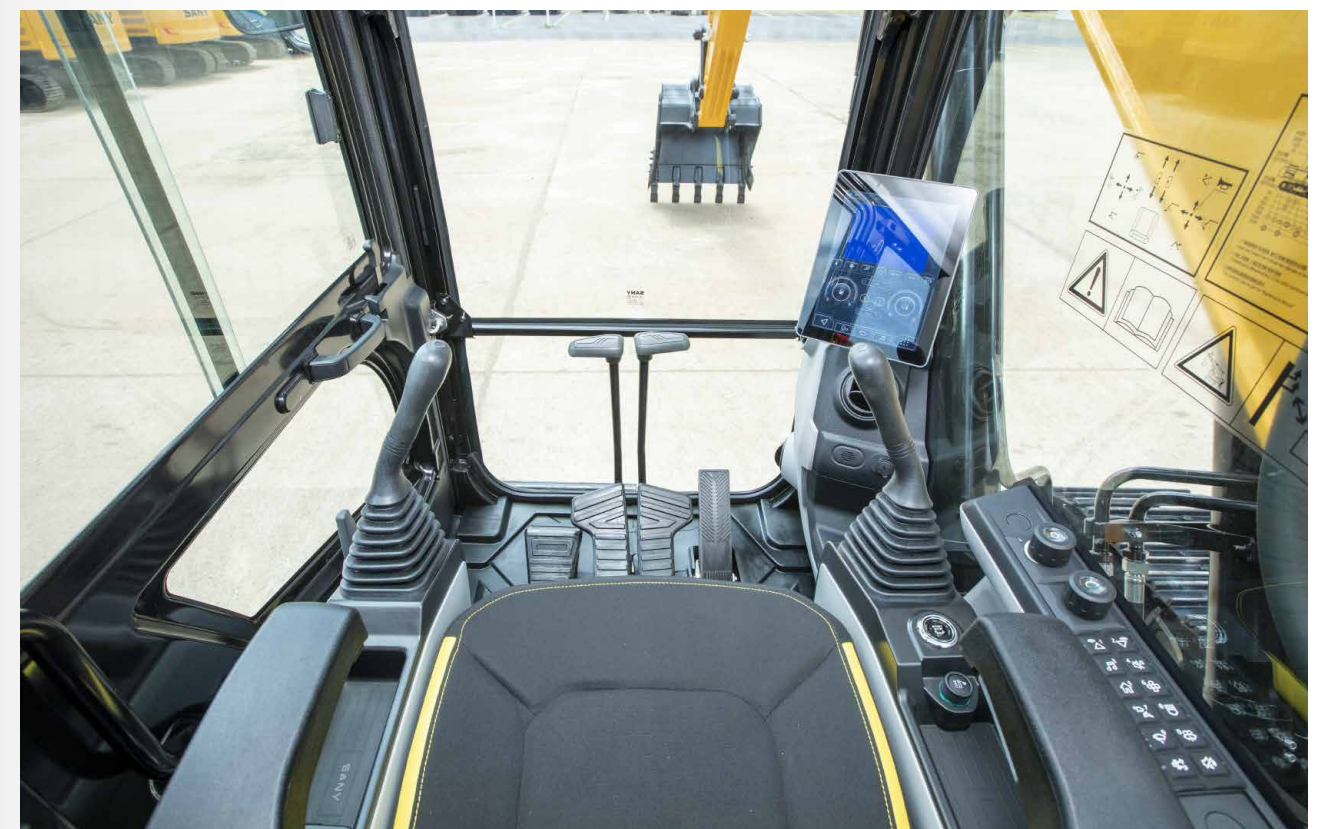
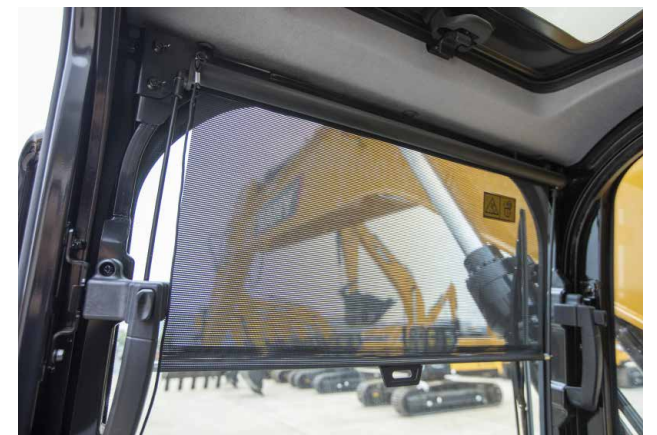
Multifunctional panel, One-key start, adjustment knob.

### 04 Air conditioning

With cooling capacity increased by over 10%, features a user-friendly vent layout for the optimal temperature experience.

### 05 Optional parts

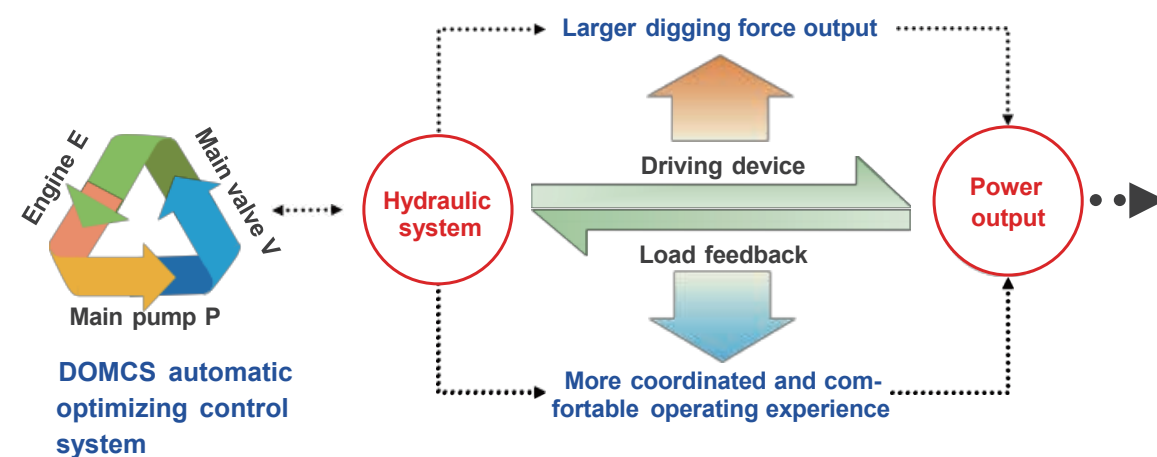
Improve the driving experience with the optional addition of front window sunshades.



# Superior performance

## Efficient low consumption

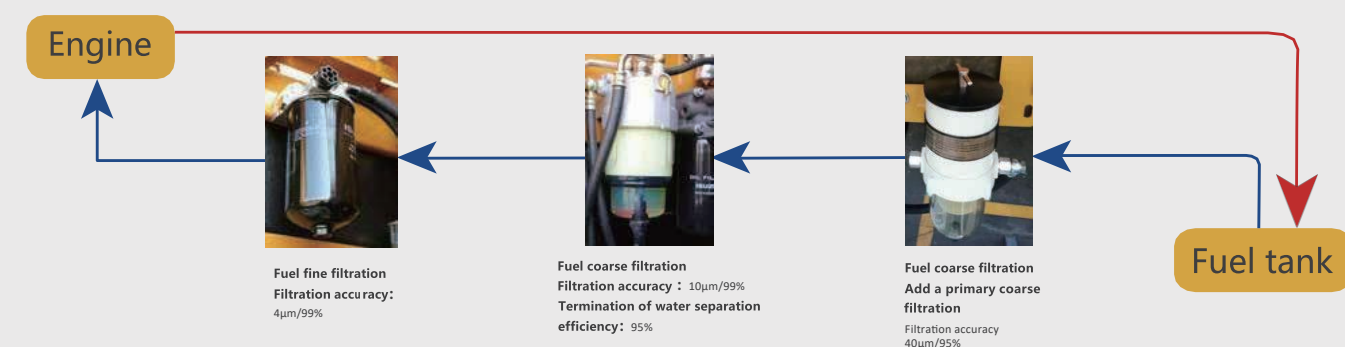
Using the "positive flow" system and the "DOMCS" engine-pump-valve integrated control system independently developed by SANY, the efficiency fuel consumption has surpassed the competitive brands, with 8% higher efficiency and 10% lower fuel consumption.



Under the same fuel consumption, the combustion efficiency of the SY215H is increased by about 7% compared with the SY215C

## Three-stage Filtration System

The "launch of the first self circulation" large-scale multi stage filtration system "copes with various oil products, and meets the needs of GB III emissions, top protection" is changed to the launch of a double layer fuel filtration system to cope with various oil products and meet the needs of GB III emissions, with top protection and more stable performance of the whole machine.



## Smart administration

The vehicle-mounted IOT terminal is added to this machine, which can track the running information of equipment in real time and display it visually. For example, you can see the current status of the machine in the cloud and present the workload of the operator.

### Example 1: Device Status Presentation

- ◆ Present the working time, position and idle time of the machine;
- ◆ Showing the machine power usage, current gear, etc.
- ◆ Present the current alarm information of the machine, etc.

### Example 2: Statistics of workload

- ◆ According to the machine statistics completed workload;
- ◆ According to the operator statistics has completed the workload;
- ◆ According to the time (day, week, month) to present the completed workload.



## Additional customization options

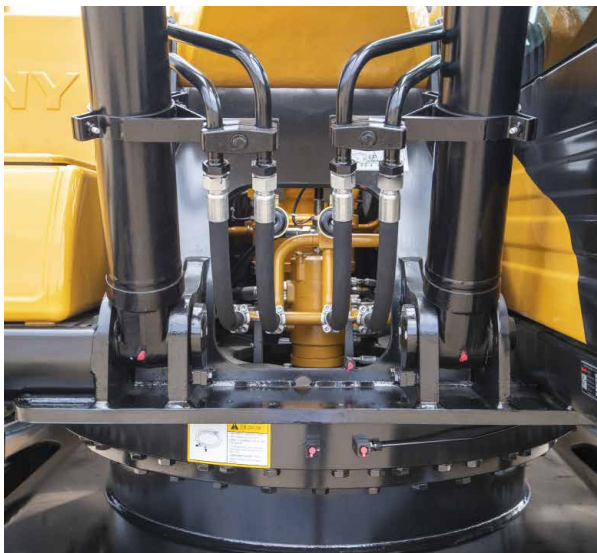
Safety is improved with the addition of optional alarm lights and a rearview camera. Opting for a Hydraulic Rock Breaker pipeline enables you to set up additional working devices.



# Convenient maintenance

In allusion severe working conditions of the mine, the design of maintenance convenience of the maintainable parts is improved. Maintenance space for various maintainable parts increases by 20%-30% and makes the operation easier. Hydraulic oil and filters boast an extended service life.

- Easy to replace air filter element
- Easy to replace diesel oil filter element
- Easily check engine oiland pump oil automatically after the filter element is maintained
- Engine compartment volume is increased by 20%, and water drain valve and diesel oil check valve are added
- Hydraulic oil: Service life is 4,000h and is extended by 1 time as compared with the same type; Engine oil: Replacement interval is 500h and is extended by 1 time as compared with the same type ; Fuel filter element and engine oil filter element: Maintenance interval is extended from 250h to 500h.



# Multi-usage

According to the individual needs of users in this tonnage, the product can provide more than 20 kinds of working device matching, as well as a variety of deformation products, to improve customer profitability.

Configurations of the working units for SY215H

| Models    |      | SY215H |     |     | Notes                                                                                           |
|-----------|------|--------|-----|-----|-------------------------------------------------------------------------------------------------|
| Boom(m)   |      | 5.7    |     | 8.5 |                                                                                                 |
| Stick (m) |      | 2.9    | 2.4 | 6   |                                                                                                 |
| Bucket m³ | 0.35 | -      | -   | ■   | Maximum material density(Kg/m³)<br>● ≤2100   ● ≤1800<br>◆ ≤1500   ▲ ≤1200<br><br>-Not available |
|           | 0.45 | -      | -   | ■   |                                                                                                 |
|           | 0.8  | ●      | ●   | -   |                                                                                                 |
|           | 0.9  | ■      | ■   | -   |                                                                                                 |
|           | 0.93 | ■      | ■   | -   |                                                                                                 |
|           | 1    | ▲      | ▲   | -   |                                                                                                 |
|           | 1.1  | ▲      | ◆   | -   |                                                                                                 |
|           | 1.2  | -      | ▲   | -   |                                                                                                 |
|           | 1.5  | -      | -   | -   |                                                                                                 |

Examples of special working devices for SY215H



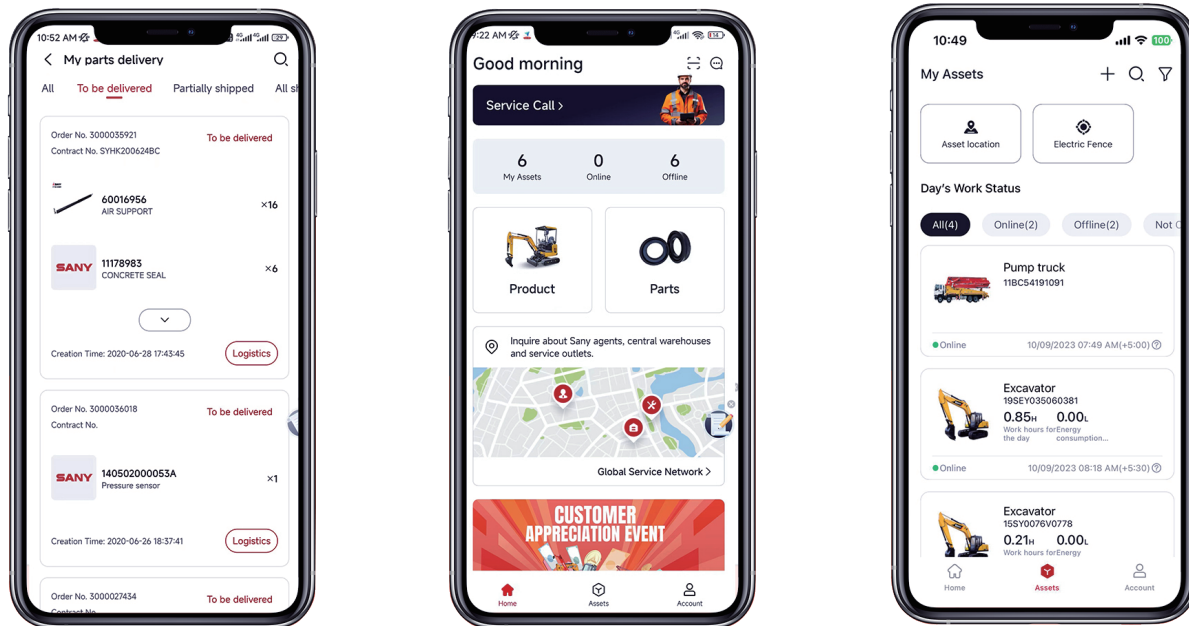
SY215H  
Broken



SY215H  
Long Reach arm

# MySANY APP

## Easy use, quick response



### Quick Parts Access

- View parts manuals
- View parts availability
- Check equipment & parts order status

### Fleet Management

- Check equipment working condition
- Monitor equipment energy consumption
- Set up e-fence

### Streamlined Service

- One-click to initiate service request
- Check global service network
- View local service team's phone number & email



Scan to download!

# Complete research & development and test system

SANY has established complete machine endurance test center with full functions. Each model of excavator must be subjected to over 2,000h field excavating test.

Key components like working device, cab and hydraulic components etc. must be subject to fatigue test over 800,000 times.



# Advanced manufacturing technology

SANY has RGV assembling line and full automatic welding robots, and possesses high precision machining equipment and precise machining center.

SANY's manufacturing and assembling lines won five-star national site in 2013 and national quality award in 2014. In 2023, SANY Mini Excavator Factory was awarded as the intelligent factory.



# Technical specifications

| Specification    |                                                                                  | Main performance           |                |
|------------------|----------------------------------------------------------------------------------|----------------------------|----------------|
| Operating weight | 21900 kg                                                                         | Traveling speed (high/low) | 5.4/3.3 (km/h) |
| Bucket Capacity  | 1.0~1.1 m³                                                                       | Swing speed                | 11 rpm         |
| Model            | 4HK1                                                                             | Gradeability               | 70%(35°)       |
| Type             | 4cylinders、4strokes、water-cooling<br>Electric spray common rail and turbocharged | Ground pressure            | 47.4 kPa       |
| Engine power     | 120 kW/ 2000 rpm                                                                 | Bucket digging force       | 138 kN         |
| Maximum torque   | 657 Nm/ 1500 rpm                                                                 | Arm crowd force            | 103 KN         |
| Displacement     | 5.193 L                                                                          | Automatic idle speed       | 1400 rpm       |
|                  |                                                                                  | Maximum drawbar pull       | 232 kN         |

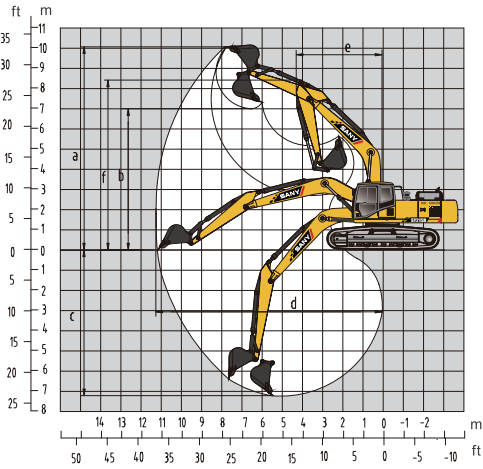
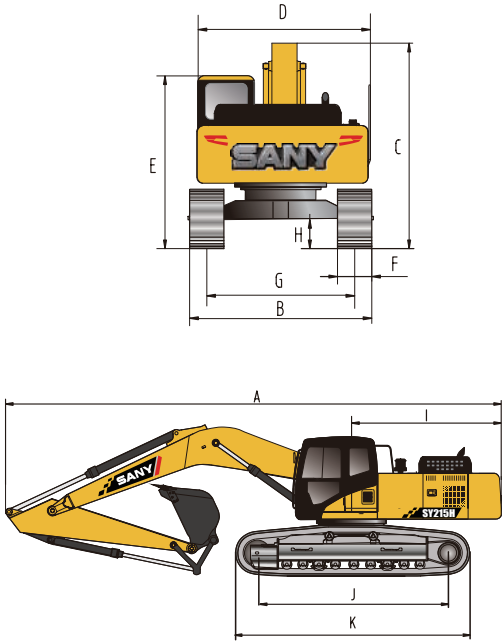
| Service refill capacities |         | Traveling part           |               |
|---------------------------|---------|--------------------------|---------------|
| Fuel tank                 | 340 L   | Number of track plates   | 49            |
| Hydraulic tank            | 239 L   | Each carrier roller side | 2             |
| Engine oil                | 21.5 L  | Each thrust wheel side   | 9             |
| Anti-freezing fluid       | 33.44 L | Standard track           | 600 mm        |
| Final drive               | 2×5.0 L | Optional Track           | 700 mm, 800mm |

# Table of lifting capacity

| Boom--5700mm Arm--2919mm Track width--600mm Counterweight--4000kg |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |              |
|-------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|--------------|
| Height of loading point (B) m                                     | 3.0m                                                                                |                                                                                     | 4.5m                                                                                |                                                                                     | 6.0m                                                                                |                                                                                     | 7.5m                                                                                |                                                                                     | Maximum point position                                                              |                                                                                     |              |
|                                                                   | Longitudinal                                                                        | Lateral                                                                             | Longitudinal                                                                        | Lateral                                                                             | Longitudinal                                                                        | Lateral                                                                             | Longitudinal                                                                        | Lateral                                                                             | Longitudinal                                                                        | Lateral                                                                             |              |
|                                                                   |  |  |  |  |  |  |  |  |  |  | mm           |
| 7.5m                                                              | kg                                                                                  |                                                                                     |                                                                                     |                                                                                     | 4439.18                                                                             | 4439.18                                                                             |                                                                                     |                                                                                     | 3142.46                                                                             | 3142.46                                                                             | 6275         |
| 6.0m                                                              | kg                                                                                  |                                                                                     |                                                                                     |                                                                                     | 5210.52                                                                             | 4631.08                                                                             |                                                                                     |                                                                                     | 3143.33                                                                             | 3143.33                                                                             | 7360         |
| 4.5m                                                              | kg                                                                                  |                                                                                     |                                                                                     |                                                                                     | 5905.03                                                                             | 4466.82                                                                             | 4636.06                                                                             | 3133.94                                                                             | 3099.06                                                                             | 2783.4                                                                              | 8025         |
| 3.0m                                                              | kg                                                                                  |                                                                                     | 8686.56                                                                             | 6388.9                                                                              | 6380.68                                                                             | 4225.13                                                                             | 4523.84                                                                             | 3031                                                                                | 3182.79                                                                             | 2540.63                                                                             | 8370         |
| 1.5m                                                              | kg                                                                                  |                                                                                     | 9504.66                                                                             | 5894.4                                                                              | 6112.18                                                                             | 3985.7                                                                              | 4396.98                                                                             | 2914.62                                                                             | 3381.35                                                                             | 2450.68                                                                             | 8435         |
| Ground                                                            | kg                                                                                  | 6663.3                                                                              | 6663.3                                                                              | 9129.42                                                                             | 5577.9                                                                              | 5922.25                                                                             | 3816.32                                                                             | 4296.37                                                                             | 2822.33                                                                             | 3717.27                                                                             | 2494.18 8230 |
| -1.5m                                                             | kg                                                                                  | 10709                                                                               | 10353.9                                                                             | 9085.85                                                                             | 5541.2                                                                              | 5840.95                                                                             | 3743.83                                                                             | 4275.64                                                                             | 2803.31                                                                             | 4110.75                                                                             | 2703.05 7730 |
| -3.0m                                                             | kg                                                                                  | 16361                                                                               | 10539.8                                                                             | 9156.21                                                                             | 5600.5                                                                              | 5882.45                                                                             | 3780.84                                                                             |                                                                                     | 4996.22                                                                             | 3295.6                                                                              | 6870         |
| -4.5m                                                             | kg                                                                                  | 14692                                                                               | 10913                                                                               | 9415.98                                                                             | 5819.6                                                                              |                                                                                     |                                                                                     |                                                                                     | 6959.28                                                                             | 4477.58                                                                             | 5485         |

- 1.The lifting capacity is calculated in accordance with ISO10567 and SAEJ1097, where the limit coefficient of hydraulic system is 0.87 and tilting limit coefficient is 0.75;
2. Item with \* is limited by hydraulic pressure and item without “\*” is limited by stability;
3. Lifting point is front support hole of bucket rod (excluding bucket weight). It is necessary to deduct from the above lifting capacity if additional accessory is installed such as bucket etc.

Machine dimensions



| Overall dimensions (mm)                                       | SY215H<br>(Standard) | SY215H<br>(Extended) |
|---------------------------------------------------------------|----------------------|----------------------|
| A. Overall length (during transportation)                     | 9680                 | 9680                 |
| B. Total width (operation/transportation)                     | 2980                 | 2980                 |
| C. Overall height (during transportation)                     | 3440                 | 3440                 |
| D. Upperstructure width (excluding walking platform)          | 2875                 | 2875                 |
| E. Overall height (cab top)                                   | 3075                 | 3075                 |
| F. Standard track shoe width                                  | 600                  | 600                  |
| G. Track gauge (in transportation state / in operation state) | 2380                 | 2380                 |
| H. Min. ground clearance                                      | 440                  | 440                  |
| I. Tail swing radius                                          | 2900                 | 2900                 |
| J. Length to centers of rollers                               | 3445                 | 3640                 |
| K. Track length                                               | 4250                 | 4445                 |

| Operation range (mm)                  | SY215H<br>(Standard) | SY215H<br>(Extended) |
|---------------------------------------|----------------------|----------------------|
| a. Max.digging height                 | 9600                 | 9600                 |
| b. Max. unloading height              | 6730                 | 6730                 |
| c. Max.digging depth                  | 6600                 | 6600                 |
| d. Max. digging distance              | 10280                | 10280                |
| e. Min. slewing radius                | 3730                 | 3730                 |
| f. Max. height at min. slewing radius | 7680                 | 7680                 |

Standard configuration

| Engine                                 | Cab                                                         | Traveling body of<br>undercarriage           |
|----------------------------------------|-------------------------------------------------------------|----------------------------------------------|
| 24V/5kW starter motor                  | • Ultra-silence frame cab                                   | • Traveling parking brake                    |
| 50A alternator                         | • Reinforced light-color glass window                       | • Traveling motor guard plate                |
| Air prefilter                          | • Silicone oil rubber damper                                | • H-shaped track guide mechanism             |
| Dry-type dual-element air filter       | • Openable top/front wall upper window and left side window | • Hydraulic tensioning device of track       |
| Cylinder engine oil filter             | • Rear window emergency fire exit                           | • Bolted driving wheel                       |
| Three-stage fuel oil filter            | • Wiper (with washer)                                       | • Carrier roller and thrust wheel            |
| Engine oil cooler                      | • Multidirectional adjustable seat                          | • Reinforced chain track with pin shaft seal |
| Radiator (with full protective screen) | • Radio (with digital clock)                                | • 600mm triple track shoe                    |
| Auxiliary radiator water tank          | • Foot rest and floor mat                                   | • Reinforced side pedal                      |
| Fan deflector                          | • Loudspeaker and rearview mirror                           | • Bottom cover plate                         |
| Isolated mounted engine                | • Seatbelt and fire extinguisher                            | • 800mm track shoe*                          |
| Automatic idling system                | • Cup holder and compartment lamp                           |                                              |
|                                        | • Ash tray and emergency hammer                             |                                              |
|                                        | • Storage box and sundries bag                              |                                              |
|                                        | • Pilot control cut-off lever                               |                                              |
|                                        | • Fully-automatic A/C                                       |                                              |
|                                        | • Half protective guards(Forward down)*                     |                                              |
|                                        | • Front and top protective net*                             |                                              |

• stands for standard configurations    ○ stands for optional configurations

# Standard configuration

| Hydraulic system                      | Front-end working device                                | Upper slewing platform    |
|---------------------------------------|---------------------------------------------------------|---------------------------|
| Operating mode selector switch        | Flange pin                                              | Fuel oil level sensor     |
| Control valve with main overflowvalve | Bucket clearance adjuster                               | Hydraulic oil level gauge |
| Control valve with spare oil port     | Welded connecting rod                                   | Toolbox                   |
| Oil suction filter                    | Integrated lubricating system                           | Slewing parking brake     |
| Oil return filter                     | All bucket pins are equipped with dust proof seal rings | Rearview mirror (right)   |
| Pilot filter                          | Reinforced all-welded box-type boom                     |                           |
|                                       | Reinforced all-welded box-type bucket rod               |                           |

| Air conditioning system       |  |
|-------------------------------|--|
| Air conditioner               |  |
| Air conditioner control panel |  |

| Monitoring system instruments                              | Alarm system                        | Others                                      |
|------------------------------------------------------------|-------------------------------------|---------------------------------------------|
| Global positioning system (GPS)                            | Engine oil pressure insufficient    | Standard storage battery                    |
| 10" colored display screen                                 | engine coolant temperature too high | Lockable engine hood                        |
| EEVIA system                                               | Insufficient fuel volume            | Lockable fuel filler cap                    |
| Hour meter, fuel tank oil level gauge                      | Fault code alarm                    | Anti-slip pedal, armrest and sidewalk       |
| Engine coolant temperature gauge                           |                                     | Traveling direction sign on traveling frame |
| Altitude, track pressure fuel consumptionetc. can be added |                                     | Manual grease gun                           |
| Bluetooth music                                            |                                     |                                             |

● stands for standard configurations    ○ stands for optional configurations

