



● Rated Power
300kW/1800rpm
● Host Weight
43850kg

SY650HD

PILE DRIVER HOST

BRAND NEW CHANGE BRAND NEW C10

ASSET OF GREAT VALUE

Innovation Leads, Exciting Sany



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SY650HD



Value Model of Pile Driver

New generation dedicated pile driver host

Product Selling Points

SY650HD is a new generation of 50T pile driver mainframe product specially designed by Sany Heavy Machinery to cope with pile driving conditions, with the goal of improving customer investment return. Compared with competing brands, it has characteristics such as "superior performance, super adaptability, long lifespan, and ultra-low maintenance costs".



Special Working Conditions
Specialized Design



Strong Adaptability



Long Service Life



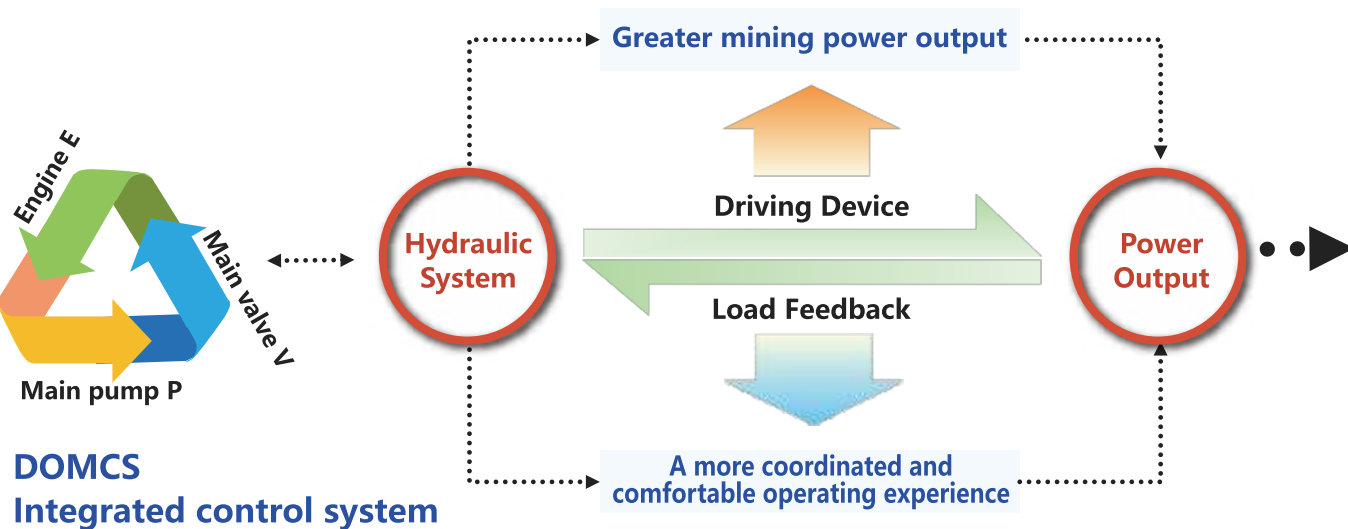
Low Maintenance Cost



SUPERIOR PERFORMANCE

○ Efficient low consumption

Adopting the "positive flow" system and Sany's independently developed "DOMCS" dynamic optimization intelligent matching control system, the efficiency and fuel consumption have surpassed competing brands, with an 8% increase in efficiency and a 10% decrease in fuel consumption. The Sany dedicated engine has strong power and high reliability, ensuring stability for continuous operation in harsh environments. Compared to foreign brands, it only saves fuel and works faster!



DOMCS
Integrated control system



Isuzu 6WG1X engine, compliant with National III emission standards, with a displacement torque ratio higher than competing brands. With a 20% coverage and strong power, it helps customers solve heavy load operation problems quickly and efficiently.

Working in standard mode (S9), with an annual working time of 3000 hours and a diesel price of 7 yuan/L, the fuel cost alone can save you 100000 yuan per year!

○ Wide sphere of vision

For pile driving conditions, a tilted cab is equipped with a tilt angle of up to 30 degrees, which can meet the requirement of upward visibility for operators during pile driving without lifting their heads, greatly improving safety and comfort.



○ Smooth Handling

By using a special handle, optimizing the valve core structure, regeneration channel, and adding intelligent merging control measures, pressure loss is reduced, operational coordination is improved, and equipment operation is easy and smooth.



A excavator operator with 12 years of work experience in Suzhou gave this evaluation SY650HD:

SY650HD The pile driver is powerful in driving and pulling piles, with fast speed, stable machine, and the cab can be lifted, making operation much more

HIGH ADAPTION ABILITY

By improving safety, heat dissipation capacity, adopting efficient filtration systems, and "high anti-corrosion" coatings, SY650HD achieves improved adaptability to the environment, working conditions, and oil products.

High anti-corrosion coating
New coating system increases paint life

50%

Independent oil dispersion
We have launched the first domestic 50T level independent oil dispersion system, which reduces the operating temperature of the system by 8-10 °C compared to general excavators, greatly improves the adaptability to high temperature environments, and increases the service life of rubber parts by 30%.

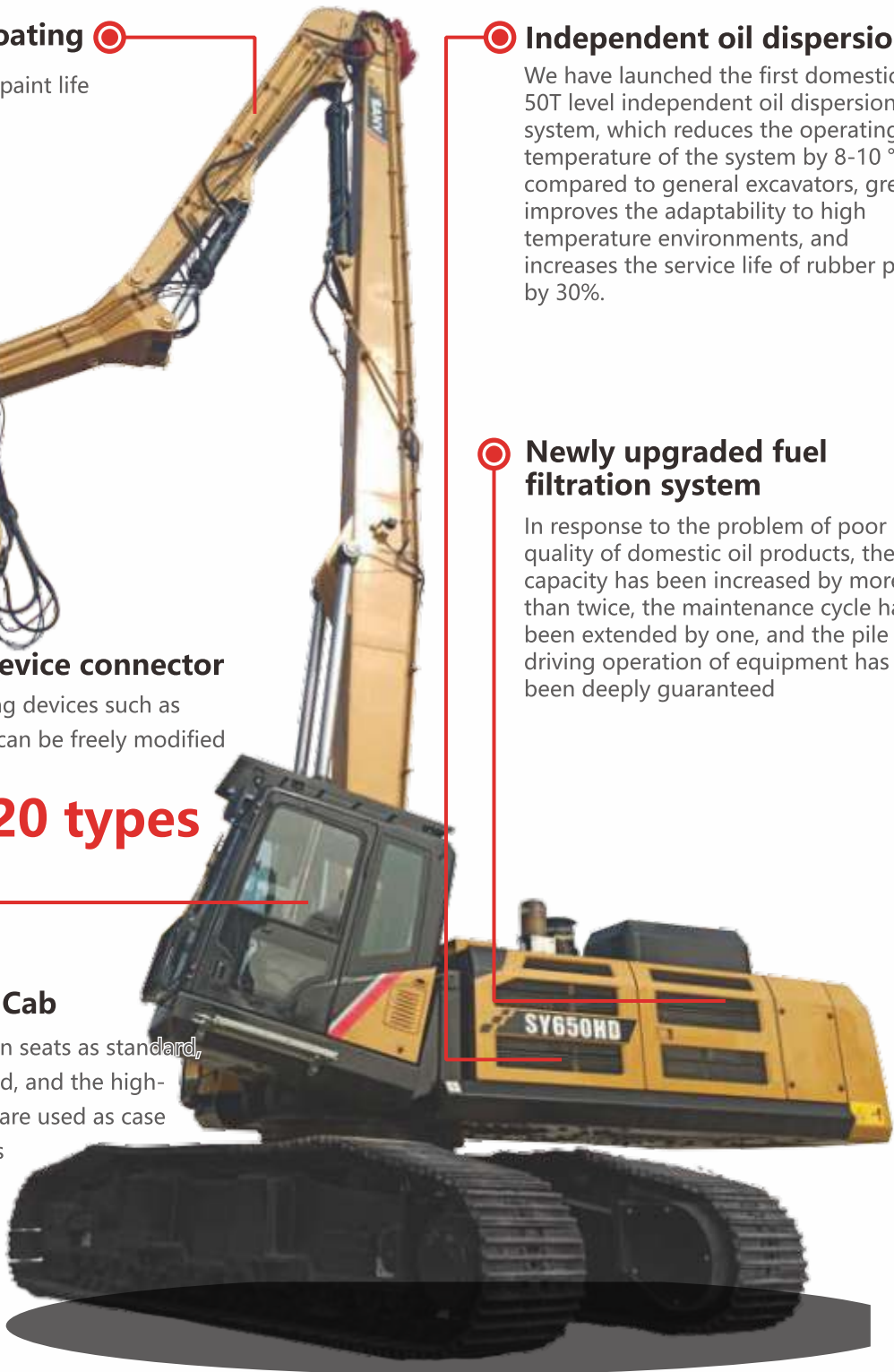
Newly upgraded fuel filtration system
In response to the problem of poor quality of domestic oil products, the ash capacity has been increased by more than twice, the maintenance cycle has been extended by one, and the pile driving operation of equipment has been deeply guaranteed

Standard working device connector
More than 20 special working devices such as crushers and soil looseners can be freely modified

More than 20 types

FOPS/ROPS Driving Cab
Equipped with air suspension seats as standard, the comfort level is improved, and the high-strength cab and safety net are used as case studies in mining operations

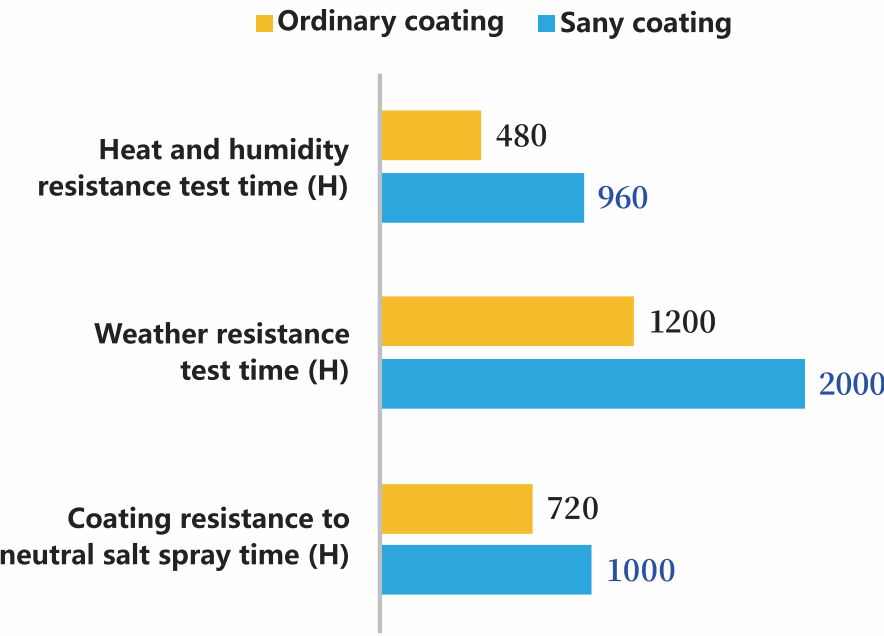
30%



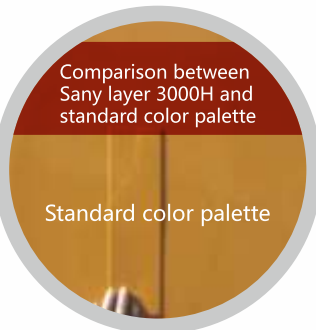
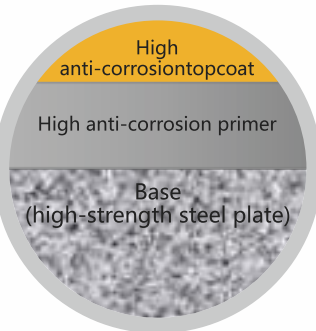
High Anti-corrsion Coation

Cooperating with internationally renowned paint brands, the aging life of paint has reached the highest level in the industry, and adaptability has been improved by 40%.

Comparison of Coating Durability Test Data



Distribution of Sany high anti-corrosion paint coating

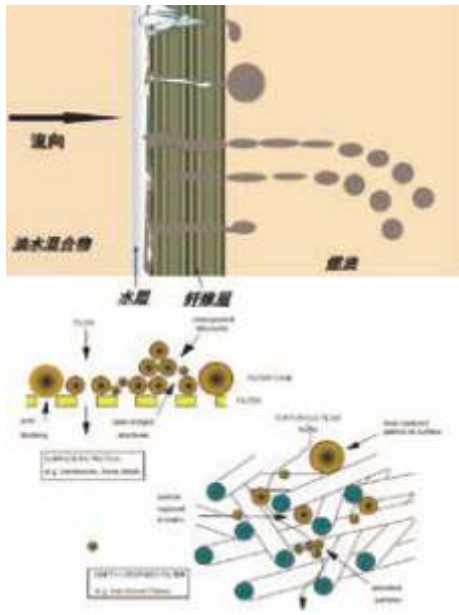


High-capacity Multi-stage Filtration System

Launching the first self circulating "large capacity multi-stage filtration system" in China to cope with various types of oil products and meet the requirements of National III emission standards. Provide top-level protection for devices!



Large capacity multi-stage filtration system



Principle of large capacity multi-stage filtration

Independent oil powder

We have launched the first 50T level independent oil dispersion system in China, which reduces the operating temperature by 8-10 °C compared to general excavators, greatly improves the adaptability to high temperature environments, and increases the lifespan of rubber parts by 30%.

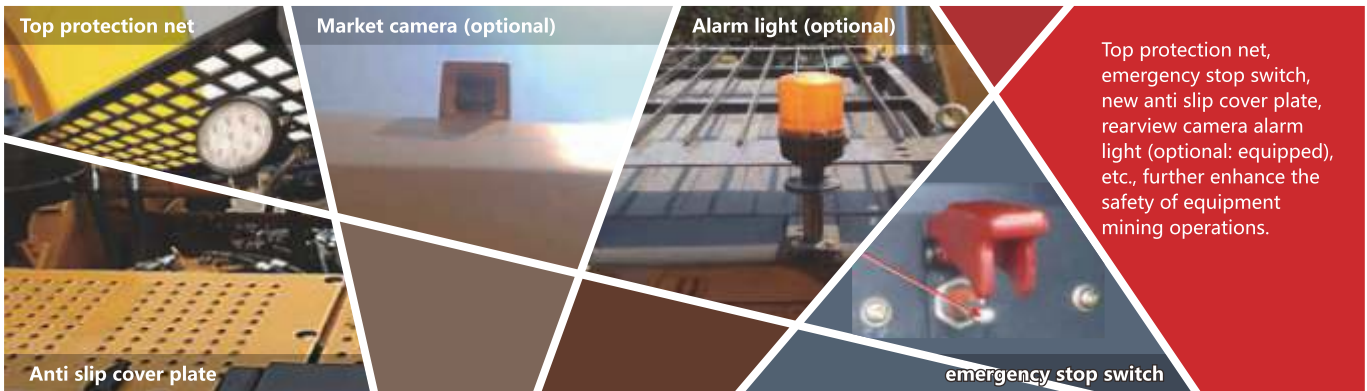


Safe and comfortable

Adopting FOPS/ROPS cab and developing new dust and noise reduction technology, the safety is 5 times higher than that of ordinary cab, and the cab noise is reduced by 5dB, far superior to other brands.



Using FOPS/ROPS cab, the steel frame structure and sealing performance of the cab are optimized through finite element modal analysis. The strength is 5 times that of a regular cab, and the safety performance is extremely high. At the same time, the cab noise is reduced by 3-5 dB, making operation more comfortable.



Multi-usage

Customers can purchase pile driving arms and corresponding pile hammers with a length of 15-18 meters on the SY650HD host; And the interface of the SY650HD pile driver platform remains consistent with the SY485 standard excavator. Customers can directly install the excavator working device for pile driving operations, achieving the goal of increasing the versatility of one machine and improving customer profitability.



SY650HD is equipped with an 18 meter pile driving arm

EXTENDED ENDURANCE

Through 15 years of accumulation and relying on the domestically pioneered "three in one" design and testing system for Sany large excavators, the design life of SY650HD exceeds 10000H and stability is improved by 50%.

Key structural components

The safety and reliability of key structural components such as platforms and chassis have doubled.

Hydraulic system

The cleanliness of the hydraulic system at the factory reaches NAS7 level, which is higher than competing brands and industry standards

Core components

The core components such as the main pump, main valve, and reducer ensure an ultra long service life.



The Key Structure

Through the optimization design of structural components, stress testing, research on welds and plates, durability testing, 100% UT inspection of key parts, and two axis fatigue testing, and other internationally advanced methods, the service life of key structural components is comprehensively improved.



The overall elongated platform ensures structural strength while significantly improving overall stability.



The telescopic chassis is fully extended, allowing for a 360 degree rotation range for safer operation when boarding.

The Core Components

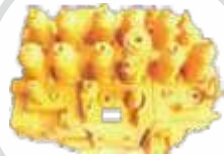
Relying on Sany's only domestic excavator component durability testing system and collaborating with internationally renowned research institutions, we conduct component life research to comprehensively improve the life of core components, including pumps, valves, cylinders, reducers, fuel tanks, and cab machines, doubling their life.



Hydraulic components such as oil cylinders and reducers must undergo pulse tests higher than industry standards before they can be used. This ensures that the lifespan of the components is 30% longer than that of ordinary brands

Oil cylinder pulse test bench

Pump valve test bench



By using the pump valve durability test bench, the service life of components such as the main pump and valve is tested and analyzed. Combined with the research results of customers' long-life components, the service life of the pump valve is ensured to be doubled



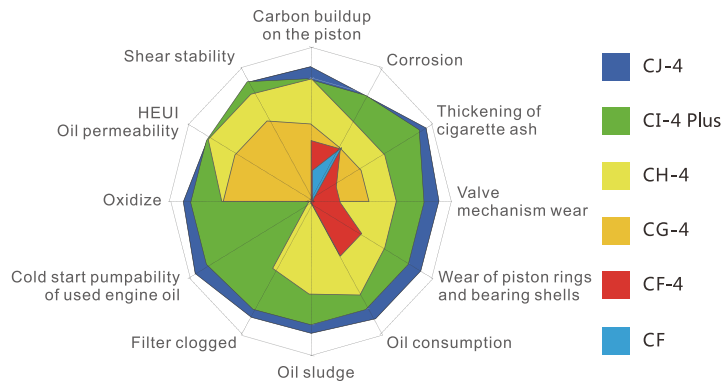
By using a vibration test bench, hundreds of thousands of vibration tests are conducted on the fuel tank, cab, etc. to ensure a 50% increase in component lifespan

Vibration test bench

LOW MAINTENANCE COSTS

Low maintenance cost

Collaborate with professional manufacturers to develop long-life engine oil, diesel filters, and hydraulic oil. After two years of market validation, customer maintenance cycles have been doubled and product maintenance costs have been reduced by 50%;



Hydraulic oil: The lifespan of hydraulic oil is 4000H, which is twice as long as that of competitors; Engine oil: The replacement cycle is 500H, which is twice as long as competitors; Fuel filter and oil filter: maintenance cycle extended from 250H to 500H; Hydraulic oil suction filter: The maintenance cycle has been extended from 1000H to 2000H.

Super easy to management

Increasing the space for replacing maintenance parts and designing convenient maintenance, equipment management is easier and simpler, equipped with a construction management system independently developed by Sany and integrated with four dimensions.

- Air filter element**
The replacement space for external air filters is 30% larger than that of ordinary excavators, and can be replaced without the need for tools
- 30% Engine compartment**
The engine compartment has been enlarged by 20%, and an electronic pump has been added to quickly resolve abnormal engine stalling
- 20% Pump chamber**
The pump chamber has increased by 30%, and the operating space for filter replacement has increased by 20%
- 30%/20%**



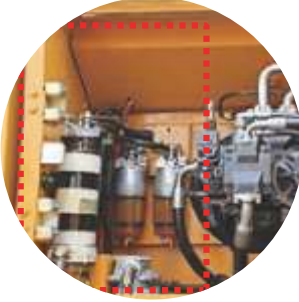
Maintenance convenience

Strengthen the convenience design of replacing maintenance parts, with "large space, easy to handle", and increase the operating space of various maintenance parts by 20% -30%, achieving worry free operation!



Easy replacement of air filter element

Replace the air filter element



Easy replacement of diesel filter element

Replace the diesel filter element



Easily check the engine oil, Abnormal engine shutdown Rear key oil pump

Check the condition of the engine oil

After abnormal shutdown, the first pump oil



The cabin volume has increased by 20%, Add a drain valve Diesel shut-off valve

Engine compartment

Stop valve

LOW MAINTANENCE COSTS

"EVI" customer management system

Equipped with the independently developed "EVI" system by Sany, a "four-dimensional" construction management system including "factory agent boss operator" is established, making pile driving construction management low-cost, low-risk, and efficient.



Industry leading after-sales service

The national agents and the five major regional agents around the world provide strong guarantees for Sany's after-sales service. The commitments of "5231", "110", and "111" are the world's top service brands in terms of battery life.



Service2.0
"5224" Worry free
for a lifetime



Satisfied with service '110'
during China trip



Service "111" is
comprehensive and thoughtful



5
%off

Up to 50% savings can be achieved through the
regeneration and replacement of critical
components



2
4

24-hour fault handling, 12 hour compensation shift



2
000

1-year or 2000H warranty whichever
comes first



4
0000

4 free service



1
51

151 Process Standard



1
00

Service radius less than 100 kilometers



0

Zero distance accessory service



1
5

First class equipment: single device service
resources, the industry leader



1
按通

One click communication: With just one call from
you, I will handle everything



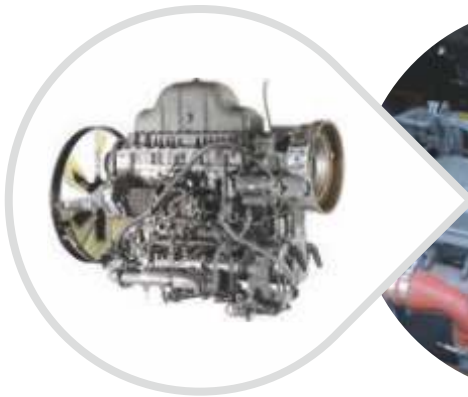
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一对一

One on one exclusive honor service: dedicated
service, exclusive honor

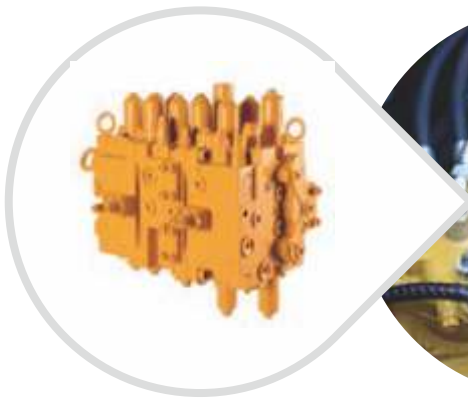
PRODUCT INTRODUCTION

○ Main configuration

The core components such as pumps, valves, and engines are jointly designed and have independent intellectual property rights. They are manufactured by internationally renowned manufacturers to ensure excellent quality and meet the professional needs of Sany customers.



The 6WG1X engine meets the National III emission standards and has a displacement torque that is 20% larger than that of competing brands. It has strong power and helps customers solve heavy load operation problems quickly and efficiently.



The 32NA main valve, developed and designed according to the needs of Sany customers, has outstanding advantages such as high reliability, low pressure loss, high flow distribution efficiency, and smooth composite action. It has low energy consumption and good controllability.



212D main pump, customized exclusively, SY485 dedicated parallel pump, with a 10% increase in power output compared to traditional series pumps, a more compact layout structure, and easier maintenance.

○ Working Case

The evaluation of SY650HD by Suzhou customers: "SY650HD pile driver has strong pile driving and pulling force, fast speed, stable machine, and the cab can be lifted, making operation much more comfortable.



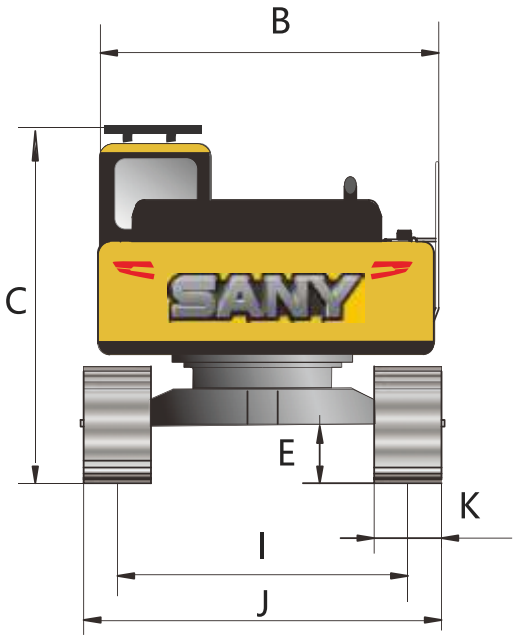
Location of homework: Suzhou construction site
Working condition: Earthwork
Assignment type: Foundation enclosure
SY650HD undertakes tasks such as pile driving and pile pulling

○ Technical specifications

Specifications		Performance	
Whole machine weight	44000kg	Walking speed (high/low)	1.4(km/h)
Bucket capacity	2.2~3.1m³	rotation speed	7 rpm
		Gradeability	36% (20°)
Engine		Ground pressure	50.4kPa
Model	6WG1XKSC-01		
Form	Direct injection, 6-cylinder 4-stroke Turbocharging intercooler and water-cooled		
Rated power	300kW/1800rpm		
Maximum torque	1950Nm/1400rpm		
Displacement	15.681L		

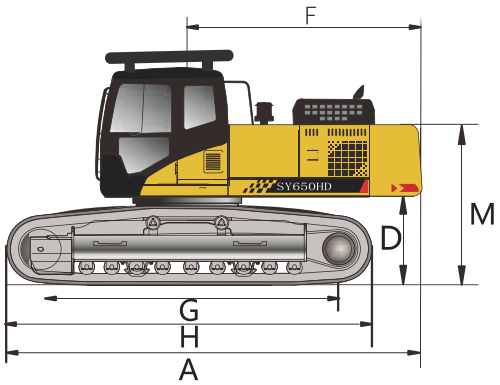
Oil and coolant capacity		Walking part	
Fuel tank	680L	Number of track shoes	57
Hydraulic oil tank	480L	Chain wheel on each side	2
Engine oil	50L	Supporting wheels on each side	12
Radiator	24L	Standard track	800mm
Final Drive	2×15 L		

○ Machine dimensions (mm)



Name (Unit: mm)	SY650HD
A Total length (during transportation)	7350
B Total width	3290
C Total height (during transportation)	3500
D Distance between counterweight and ground	1265
E Minimum ground clearance distance	451
F Tail turning radius	4370
G Track grounding length	5000
H Track length	5932
I Track gauge	2400/3700
J Total payment	3200/4500
K Track shoe width	800

○ Performance parameter



	SY650HD
Work quality kg	44000
Rated power kW/rpm	300/1800
Walking speed km/h	1.3
Rotation speed rpm	7
Gradeability	36%/20°
Grounding specific pressure kPa	50.4
Maximum tilt angle of the cab	30



*Value Model **SY650HD** of Pile Driver*

New generation dedicated pile driver host

