



# READY FOR HIGH VOLTAGE

ZERO-EMISSION. ELECTRIC. EFFICIENT.

CONSTRUCTION MACHINERY



**MINI EXCAVATOR**  
WITH A FULLY ELECTRIC DRIVE  
**SY19E**



Motor  
Vmax  
Top performance  
15 kW  
Bucket capacity  
0,04 m<sup>3</sup>  
Operating mass  
1 965 kg

# SANY

## For challenging tasks, you need a first-class partner

Quality comes from experience. And from new ideas. This is why we combine these two crucial factors at SANY. This is because we are one of the leading producers, having sold more than **450 000** excavators **worldwide**. This means that you can always rely on sophisticated products that have been tried and tested in practice. An impressive **5–7%** of our annual turnover is dedicated to research and development. This is why we give you not only our word, but also our extraordinary **five-year warranty** as a guarantee of how powerful and robust our products are.

# 450 000

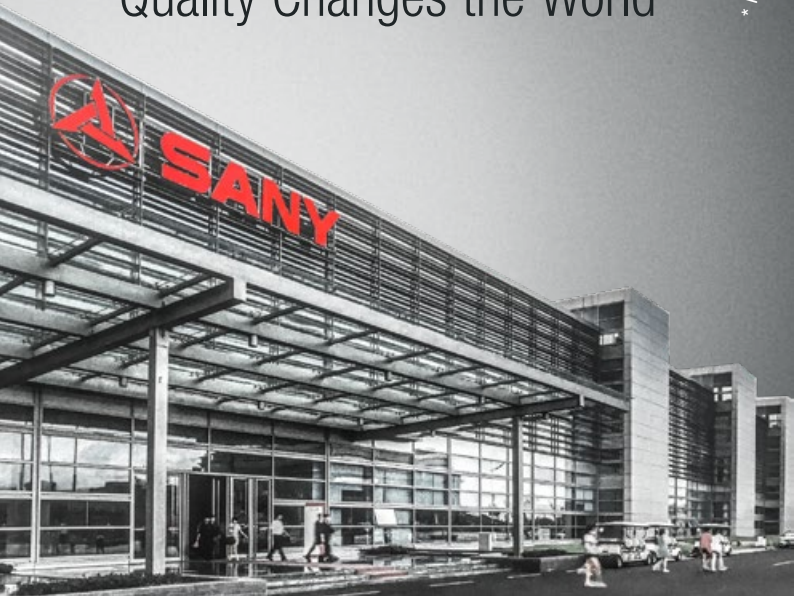
EXCAVATORS SOLD  
**WORLDWIDE**

# 5–7%

TURNOVER FOR RESEARCH  
AND DEVELOPMENT

# FIVE-YEAR WARRANTY \*

Quality Changes the World



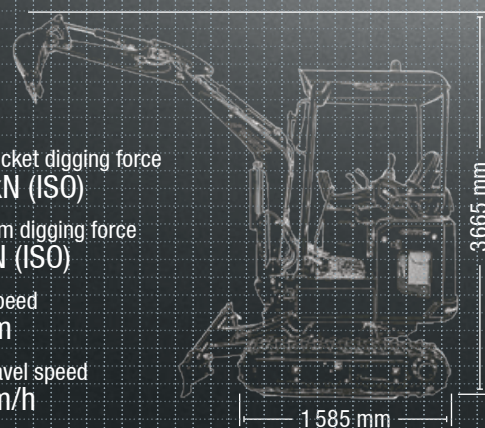
## SY19E HARD FACTS

Max. bucket digging force  
15.2 kN (ISO)

Max. arm digging force  
9.2 kN (ISO)

Swingspeed  
10 rpm

Max. travel speed  
3.6 km/h



\* Applicable in certain markets, please check with your local dealer.



## Our highlights – the added benefits SANY offers you:

- + 30% energy saving
- + 80% maintenance cost saving
- + Zero pollutant emissions
- + LFP battery
- + High resolution 7" touch display
- + Load-sensing hydraulic system
- + Additional proportional control circuit



# TRIED-AND-TEST TECHNOLOGY FOR A NEW TYPE OF ENERGY

The electrically powered SY19E significantly expands the SANY mini excavators' range of applications. Thanks to its flexibility, the new mini excavator performs impressively wherever the aim is to eliminate pollution and noise emissions. This tried-and-tested technology has been optimised for the electric drive and is the perfect solution for working in urban areas, on night-time construction sites or inside buildings, since it emits zero exhaust fumes. It can now also be used in

sensitive environments because there is no fuel on board that could leak out. However, the two-tonne excavator with a canopy structure also impresses users with its endurance. For example, a single battery charge is enough for an entire working day. What's more, if the machine needs to be operated for additional hours, it can be rapidly recharged, for instance during a lunch break.



# TOP PROPERTIES

POWER SUPPLY

# SUSTAINABLE AND TRENDSETTING

The innovative battery pack impresses users with its high power density, long battery life and short charging time. The latter is just 1.5 hours (direct current) for a short charging cycle and 2.5 hours (alternating current) for a continuous charging cycle. The battery pack is charged using a standard 220 V household socket, a 380 V three-phase current or a rapid charging station for passenger vehicles. In any case, the mini excavator is quickly ready for operation and can work continuously for up to six hours on a full battery charge – enough for an entire working day. In addition, the

power supply mode supports operating mode purely with electricity, independently of an external power source. The integrated multi-in-one control unit is at the core of the intelligent power consumption. It controls the functions of the electric drive, the three-phase AC charging function, the low-voltage power supply and the vehicle control system – as well as the additional pre-charging functions. The battery's long service life is ensured by effective thermal management during operation and the charging process.

## QUALITY

**Show strength** – the new SANY mini excavator is configured for durability through and through. For instance, the boom was extended by 30% and the bucket arm increased considerably by 65%.

## POWER SUPPLY

**Power pack** – in order to provide the necessary power, the new mini excavator is equipped with a trendsetting battery pack that impresses with its high power density, short charging times and long battery life.

## USER EXPERIENCE

**Designed for everyday work** – the high-resolution 7" touchscreen display is designed to provide a clear overview and easy, intuitive menu navigation and can also be operated safely with gloves.



## SAFETY

**Visibility for safety** – two LED working lights and one on the boom are fitted as standard ensure optimal illumination of the working area in all conditions.

## COMPONENTS

**Perfect duo** – the permanent magnet synchronous motor with its low energy consumption is optimally designed for the newly developed battery pack.

## ECONOMY

**Less is more** – the highly efficient battery drive system pays for itself. Compared to conventional drives, it consumes around 30% less energy and its maintenance costs are reduced by 80%.



## COMPONENTS

### Reliable top performer

Equipped with a permanent magnet synchronous motor, the new SANY mini excavator impresses with high power and torque density, excellent efficiency, reliability and low energy consumption. The load-sensing hydraulic system with a variable and load-dependent function delivers an excellent hydraulic performance for its weight class. This enables the interaction between individual consumers to be coordinated with greater flexibility and precision.

## ECONOMY

# GOOD SAVINGS

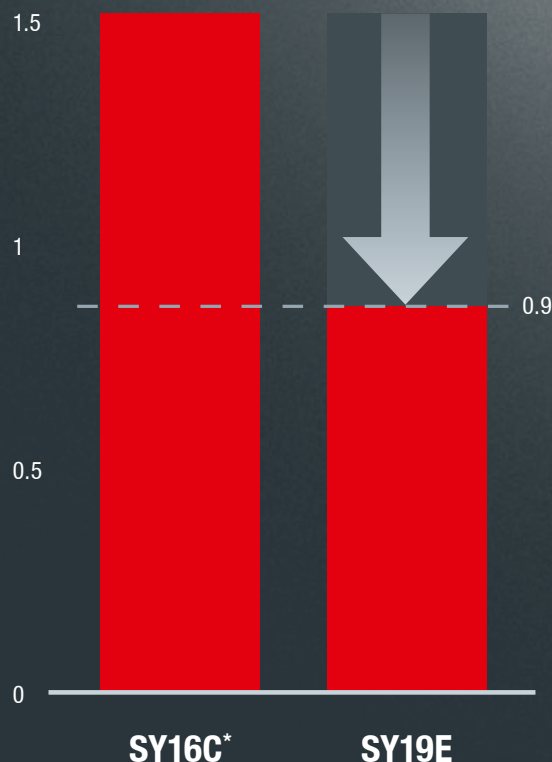
Compared to machines with a combustion engine, having a fully electric drive reduces direct energy costs by around 30%. What's more, there are substantial savings when it comes to maintenance since the drive is virtually maintenance-free. Only the hydraulic system requires maintenance – meaning that the total maintenance costs are considerably reduced by around 80%.

## QUALITY

### Designed for durability

An optimised FEM analysis was used to overhaul the entire excavator structure. This resulted in a considerable reduction in stress concentrations and an extension of the components exposed to the most stress – for example, the boom was extended by 30% and the bucket arm increased by 65%. The means that the new SANY mini excavator is optimally equipped for tough everyday work – once again being a cut above the rest with its service life extended by 30% on average.

# EXTREMELY LOW MAINTENANCE COSTS



\* Traditional machine with a combustion engine

# EFFICIENCY, COST-EFFECTIVENESS AND USER EXPERIENCE

USER EXPERIENCE

## MAXIMUM COMFORT IN A MINI EXCAVATOR

The driver's seat in the SY19E has many adjustment options, with its 680 mm high backrest, offering significantly improved seating comfort compared with similar models in this class.

There is also plenty of room in the footwell, with its 300 mm width and new pedal layout making operating the pedals much more convenient and safer.



### Absolute reliability – for peace of mind!

SANY's five-year warranty\* gives you the assurance that you can fully count on your equipment.

\* With participating partners



USER EXPERIENCE

### Convenient control panel

The new, high-resolution 7" touchscreen display developed by SANY is easy to read and its intuitive menu navigation and intelligent human-computer interaction make it easy for the operator to find the information they need, even if they are wearing gloves. In addition, the proportional auxiliary hydraulics, which can be controlled using the joystick, are installed as standard. This enables users to carry out particularly precise work with attachment devices that require an additional circuit.



USER EXPERIENCE

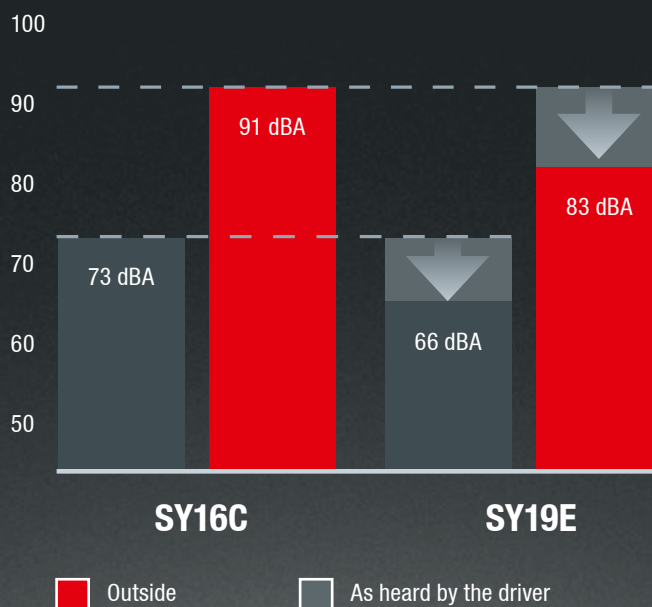
**Audible comfort**

The SY19E shows the advantages of an electric drive – with a sound level of 83 dBA outside. The noise emissions are reduced significantly compared to similar excavators and correspond to a volume barely louder than normal speech. From where the operator is sitting, the noise level is reduced to just 66 dBA.

The permanent magnet synchronous motor with a high power density and torque ensure high efficiency and reliability, as well as low energy consumption.



**NOTICEABLY QUIETER**



SAFETY

**COMPREHENSIVE AND RELIABLE**

The TOPS-/FOPS-certified canopy provides both the machine and the operator with effective protection. It also meets the highest safety standards with its additional cross struts and a handle on the roof structure. In addition, the boom and blade cylinders are protected during tough operations at construction sites by the effective cylinder protection.

In the worst-case scenario, the emergency lowering ensures that the equipment can even be lowered if there are problems with the drive unit, such that the machine can be transported or maintenance can be performed safely.



# TECHNICAL SPECIFICATIONS

## ENGINE

Model	Vmax
Typ	Permanent magnet VAIYS62317-001
Rated power	10 kW / 2 000 rpm
Top performance	15 kW
Max. torque	72 Nm
Battery type/voltage	LFP/lithium-ion/48 V
Rated voltage	268,8 V
Rated capacity	82 Ah
Battery capacity (fully charged)	22 kWh

## HYDRAULIC SYSTEM

Mainpump	Variable displacement axial piston pumps with a load-sensing hydraulic system
Max. oilflow	72 l/min
Main safety valve	24,5 MPa

## RELIEF VALVE SETTINGS

Implement circuit	245 bar
Swing circuit	162 bar
Travle circuit	245 bar
Pilot pressure	35 bar

## SERVICE REFILL CAPACITIES

Drive (per side)	0,4 l
Hydraulic oil tank	21 l

## PERFORMANCE

Swingspeed	10 rpm
Max. travel speed	High 3,6 km/h, slow 2,6 km/h
Max. travel force	15,6 kN
Gradeability	30°
Bucket capacity	0,04 m <sup>3</sup>
Groundpressure	0,31 kg/cm <sup>2</sup>
Bucket digging force ISO	15,2 kN
Arm digging force ISO	9,2 kN








## UNDERCARRIAGE AND UPPER STRUCTURE

Boom length	1 810 mm
Arm length	1 130 mm
Bottomrollers	3
Rotation device	Axial piston motor with planetary gear running in oil bath and single-row slewing ring. Spring-loaded slewing gear parking brake, hydraulically released.








## OPERATING MASS

SY19E	1 965 kg
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## LIFTING CAPACITIES OF LOWER DOZER BLADE

	Radius				Digging reach	
	1.5 m	2.0 m	2.5 m	3.0 m	Max.	
Load point height						
3.0 m kg					285	285
2.0 m kg					267	253
1.0 m kg					483	486
Ground line kg	826	826	631	528	456	383
-1.0 m kg	819	819	563	529	407	382

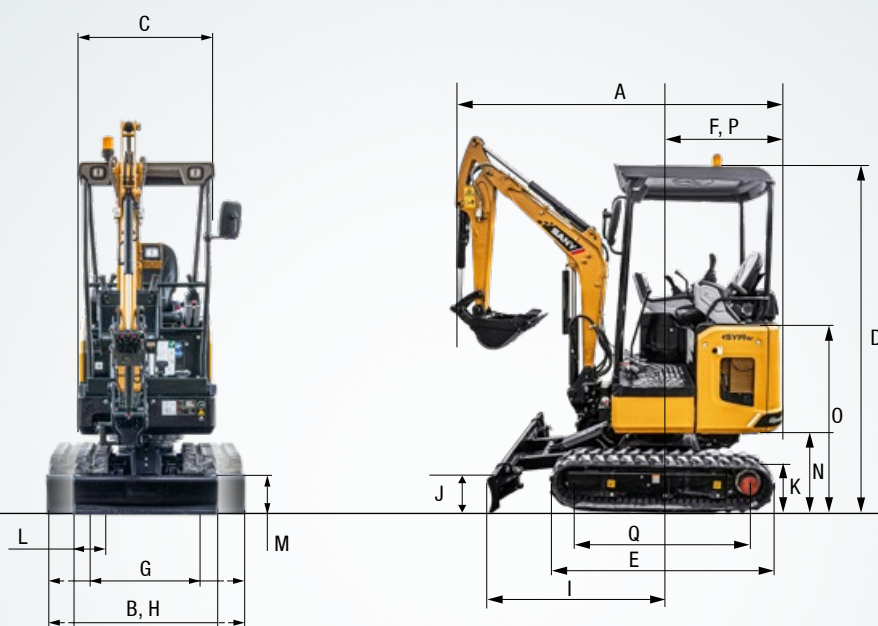
## LIFTING CAPACITIES OF UPPER DOZER BLADE

	Radius				Digging reach	
	1.5 m	2.0 m	2.5 m	3.0 m	Max.	
Load point height						
3.0 m kg					285	285
2.0 m kg					253	253
1.0 m kg					483	483
Ground line kg	811	826	514	528	371	383
-1.0 m kg	819	819	514	529	370	382



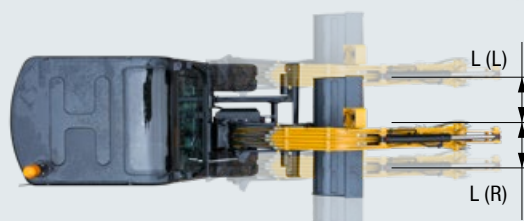
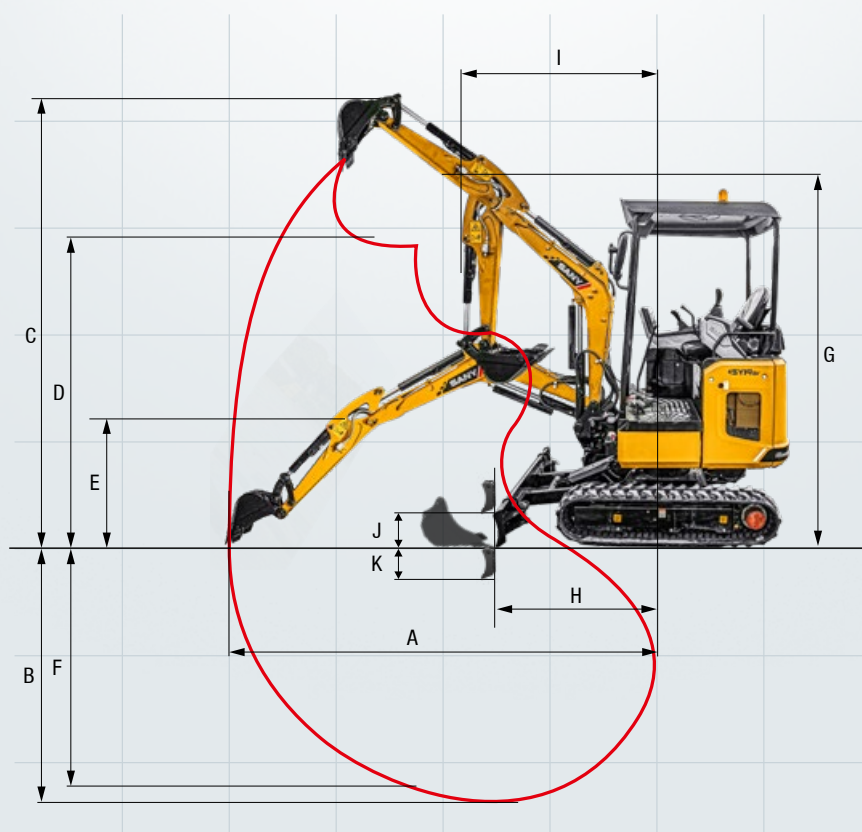
## DIMENSIONS (TRANSPORT)

A	Transport length	3624 mm
B	Transport width	980/1350 mm
C	Overall width of upper structure	980 mm
D	Height over cabin/ROPS	2440 mm
	Height of Boom – transport	1175 mm
E	Overall length of crawler	1585 mm
F	Tail length	900 mm
G	Track gauge	750/1120 mm
H	Undercarriage width (blade)	980/1350 mm
I	Horizontal distance to blade	1190 mm
J	Blade height	270 mm
K	Track height	375 mm
L	Track pads width	230 mm
M	Min. ground clearance	180 mm
N	Counterweight clearance	470 mm
O	Engine cover height	1270 mm
P	Tail swing radius	900 mm
Q	Center distance of tumbler	1225 mm



## WORKING AREA

A	Max. digging reach	4000 mm
B	Max. digging depth	2360 mm
C	Max. digging height	3665 mm
D	Max. dumping height	2635 mm
E	Min. dumping height	795 mm
F	Max. vertical digging depth	2215 mm
G	Overall height over arm by min. swing radius	2745 mm
H	Arm head distance with work equipment retracted as far as possible	1230 mm
I	Swing radius by max. boomswing (L)	1490 mm
	Swing radius by max. boomswing (R)	1510 mm
	Min. swing radius	1705 mm
J	Max. clearance when blade up	310 mm
K	Max. depth of blade down	320 mm
L	Offset boom (L)	595 mm
	Offset boom (R)	350 mm
	Max. boom-swing angle (L)	73°
	Max. boom-swing angle (R)	46°



## The small excavator with a huge range of standard features

The SY19E mini excavator is already fitted with an excellent range of equipment ex-works. This includes the additional proportional control hydraulic circuit and the two travel speeds that can be selected.



### OPERATORS COMFORT / CABINE

Armrests (adjustable)	●
12v outlets	●
7"-touch-screen	●
Canopy (TOPS-/FOPS-certified)	●
Rubber mat	●

### WORKING EQUIPMENT

Breaker&Shear line proportional on joystick with piping	●
Safety valve on blade cylinder	●

### UNDERCARRIAGE

Rubber tracks 230 mm	●
Holes/loops for fixing	●

### WORKING LIGHTS

Lights - front (LED)	●
Lights - boom (LED)	●

### ENGINE/ENGINE COMPARTMENT

Grease gun holder	●
380 V charging cable	●
220 V charging cable	●
110 V charging cable	●

### HYDRAULIC SYSTEM

Swing brake	●
2 speed travel	●
Piping for auxiliary control circuit 1	●
Hydr. Pre-pressure operating joysticks	●

### SAFETY

Battery master switch	●
Travel Alarm	●
Emergency lowering system	●
Handrails	●
Lockable covers	●
Password protected startup	●

Standard ●    Optional ●

The standard and special options differ depending on the country in which the mini excavator is delivered. If you have any questions, please contact your dealer directly.

## Parts supply – quick and reliable

With the purchase of a SANY mini excavator you have made an investment in the future. Fast availability of spare parts is your guarantee of minimal downtimes and failure times.



# A SERVICE YOU CAN RELY ON

In the event of a breakdown during your warranty period, Vertu will come to your site as soon as possible to get your machine back up and running. If the repair cannot be undertaken on-site or in good time, Vertu will arrange a similar replacement while your machine is repaired under warranty

## National Service Representation

Our national service network partnerships provide certainty that you are supported with service and parts, wherever you are located.

## Flexible, Fast and Always there for you

Paid assistance, tailored advice and a reliable supply of original parts all around New Zealand. That is what we mean by premium service



## Detailed information in black and white

Handbooks and documents are available for all SANY mini excavators, and these can help you with operation, maintenance, servicing and repairs. These include operating and maintenance instructions and technical specifications.

## Parts and Inventory

As the dealer of SANY excavators, roading and construction equipment Vertu holds a significant inventory of SANY Genuine and aftermarket parts and attachments, both in New Zealand and Australia to keep you going. With direct relationships locally and internationally we can source parts quickly and as a matter of priority.



## The added benefits SANY offers you:

- + Fast supply thanks to New Zealand Vertu locations
- + More than 15,000 spare parts to minimise downtime
- + Expert knowledge for optimal supply for your machine
- + Thanks to SANY's special training programme, our technicians are kept up to date so that they can face all technical challenges



HIGHLIGHTS **SY19E**

# THE ZERO-EMISSION ALTERNATIVE

The new, electrically powered SY19E mini excavator is the right choice wherever low emission and noise levels need to be combined with efficient work. Both the working environment, such as residential areas or in buildings, and the operator benefit from low noise levels and no exhaust gases.



## SHOW STRENGTH

Improved stability and fewer stress concentrations – the components exposed to the most stress (the boom and the bucket arm) have been extended significantly again. This has resulted in **the service life being extended by 30%**.

## POWER PACK

The high power capacity and **short charging time of the innovative battery pack** mean that the mini excavator is quickly ready for operation and can **work continuously for up to six hours** on one full battery charge – **enough for an entire working day**.

## DESIGNED FOR EVERYDAY WORK

The comfortable driver's seat with a high backrest offers **excellent comfort** and enough freedom of movement to be able to reach all of the controls comfortably. There is also plenty of room in the footwell and the **new pedal layout** makes operating the pedals much more convenient and safer.

## VISIBILITY FOR SAFETY

The **TOPS-/FOPS-tested operator's platform** offers **excellent all-round visibility**. In poor lighting conditions, this is supported by **two LED working lights in the roof lining and one on the boomer**.

## PERFECT DUO

The two perfectly matched components – **the permanent magnet synchronous motor with its high power density** and **the innovative, reliable battery pack** – provide a high level of efficiency and low energy consumption.

## LESS IS MORE

The new mini excavator is also modest with respect to operating costs. Users can make considerable savings as the machine consumes around **30% less energy** and **its maintenance costs are reduced by 80%**.

## TECHNICAL HIGHLIGHTS

Engine	Vmax
Top performance	15 kW
Max. Drehmoment	72 Nm
Max. travel speed	3.6 km/h
Swingspeed	10 rpm
Mainpump	Variable displacement axial piston pumps with a load-sensing hydraulic system
Max. oilflow	72 l/min

Not all products are available in all markets. As part of our continuous improvement process, we reserve the right to modify specifications and designs without giving prior notice. The figures may contain additional options.



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