Weight	32 tons
Bucket capacity	1,9 cubic meters
Nominal power	200 kW

ELECTRIC DX355LC

Crawler excavator



Meet the new generation excavator

ELECTRIC
DX355LC

Lift your company to the next level with the DX355LC Electric!
The DX355LC Electric crawler excavator is not only exceptionally powerful but also completely emission-free.
What more could you ask for?

Top performances and capacity

The ability to be more productive

The DX355LC Electric has a high constant power motor. The DANFOSS PM (permanent magnet) electric motor has been specially developed for this crawler excavator and delivers high torque at a high efficiency of 96%. The motor is maintenance-free and has a long lifespan. The continuous power is 200 kW and the continuous torque is 1,000 Nm.

Features and benefits

Extremely compact and robust structure

Highest efficiency (over the entire operating range) on the market

Low coolant flow requirements

Coolant temperature up to +65°C

Up to IP67 enclosure class



Emission-free and high productivity

The electric crawler excavator is a machine with many qualities. Here are some of its notable features and points of intelligence listed below.

High productivity and low costs

Higher productivity and low energy consumption in an efficient and comfortable working environment.

Productivity

The highest bucket and digging forces.

Plug and play

Available 2D and 3D GPS for machine control with ready-to-use kits for major brands (e.g. Trimble, Topcon, Leica and Makkim).



Safety

360° camera system, large side mirrors, strong halogen or LED work lights and non-slip steps and platforms. Railing on the upperstructure, ultrasonic obstacle indicator (option), travel alarm: your safety is our priority.

Lifetime undercarriage

Forged steel and hardened top rollers, with oil lubrication, heat-treated sprockets, heat-treated track chains with grease lubrication, and a long lifespan.

Uptime

Uptime 12 hours* with two Powerbox 400 of 400 kWh each. Based on field test results.

**Subject to conditions and environment.*

Comfort

One of the most spacious cabins in the market, with low noise- and vibration levels and excellent all-around visibility. Fully adjustable heated seat with air suspension, standard air conditioning with climate control.

Energy plan

Powerbox 400

Thanks to the two easy to swap Powerbox 400 battery packs and the fact that the machine can also run on one individual Powerbox 400, it is possible to use the machine 24/7. Swapping the two Powerbox 400 is just as quick as refueling your diesel machine. Each battery pack consists of LFP modules. The nominal system voltage is 600 V DC and the available capacity per battery pack is 400 kWh. By using the high voltage system, there is less loss and the batteries achieve greater efficiency.

The Powerbox 400 in the Electric crawler excavator is one of the most important components of the machine. We deliver a battery swapping system as a standard in the DX355LC Electric. This ensures continuous uptime of the machine and allows you to recharge whenever and wherever you want, without moving the entire machine.

Charging facility

In addition to using the electric crawler excavator, it is equally important to have your power supply well arranged. It is important to check in advance how the charging facility for your Powerbox 400 at the jobsite is arranged. For larger machines, you need to have a charging outlet of 380 VAC. Charging on a mains (grid) connection of 220 VAC is also possible, but it will take longer for your Powerbox 400 to be fully charged again.

If you have a power supply at your company, you can quite easily have the currents (amperages) adjusted as required by the network administrator. The Powerbox 400 is equipped as standard with a DC fast charge function that allows you to recharge quickly.

The overview below shows the charging time* at 380 VAC and the 3 different currents (amperages).

**Charge times shown are from completely empty: 0% to completely full: 100%.*

120 kW - DC (Per Powerbox 400)
3h 20min charging time

380 V / 63 A - AC (Per Powerbox 400)
8h 45min charging time

380 V / 32 A - AC (Per Powerbox 400)
17h 30min charging time



Lifespan

Our batteries consist of Lithium Ion batteries of the LFP (Lithium Iron Phosphate) type, which means they are basically 100% recyclable. An End of Life (EoL) declaration is issued for the batteries. In the application as the batteries are used, they have a lifespan of 3,000 charging cycles. In practice, this means a service life of about 15 years.


ELECTRIC
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Available for a full working day

The Electric DX355LC crawler excavator has an uptime of 12 hours*, which means that the user can work with it for a whole day without having to recharge or change a battery in the meantime. You can charge at a normal charging speed at night, with the batteries being strained as little as possible, which benefits the lifespan.

** Subject to circumstances and environment.*

Active Climate Control System

Every Powerbox 400 is standard equipped with an Active Climate Control System. This keeps the battery at an optimal operating temperature at all times so that the output power is constant, whether it is plus 40 degrees Celsius outside in the blazing sun or minus 25 degrees Celsius in the freezing cold. Furthermore, this also optimizes the battery's lifespan.

Multi functional Powerbox 400

The two interchangeable Powerbox 400 in the DX355LC Electric have a patented system on board which makes it possible to use the interchangeable battery not only for this excavator, but also as a "standalone" electric generator (in combination with our add-ons) for the energy supply on the construction site or elsewhere.



Maximum flexibility

You decide where and when to charge the Powerbox 400 yourself. While the machine remains at work, you can take the Powerbox 400 interchangeable batteries to the most convenient charging location.

Interchangeability

Because the Powerbox 400 batteries are built universally, they can be used in all of our different models of excavators. This allows you to save costs when working with multiple electric machines and have varying energy needs.

Reliability

The drivetrain of the DX355LC Electric consists of main components that are developed and manufactured by Top Tier suppliers. As a result, you can rely on excellent uptime of replacement parts and good after sales worldwide.

Certification

Ingress Protection

An Ingress Protection (IP) rating is a method used to indicate the degree of protection provided by the enclosure material (or other objects). For example, an IP value indicates whether the material is resistant to the ingress of water, objects or dust. This is important to protect the mechanical equipment.

ISO 5006-standards

This international standard specifies a test method for determining and evaluating the visibility of the operator. By using cameras and mirrors, the operator does not lose any overview.

Safety guaranteed

Working with electrical machines requires compliance with a lot of laws and regulations. It is of our utmost importancy to be able to guarantee health and safety guarantee for the operator, perstanders and people responsible for the maintenance of these machines. As this is a new technology in our industry, we work closely with end-users, industry associations, NEN committees, and implement additional safety requirements for working with high-voltage vehicles. In order to comply with the type approval of an electric vehicle, certain safety requirements must be respected, such as UNECE R10, 2006/42/EG, UNECE R100 vehicle, IP65, and NEN ISO 5006-standards are examples of specific safety requirements.

UNECE R10 (EMC)

Automotive “EMC” stands for Electro Magnetic Compatibility, “R10” is a component, and “automotive” refers to the motor vehicle industry. The EMC R10 automotive certification includes a variety of type approval tests. This includes reducing harmful electromagnetic radiation sources within the legally defined limits. This means that a machine is tested for compliance with all European automotive electronics regulations, such as emissions and RF immunity.

UNECE R100

Only in the Netherlands there is an obligation to comply with the R100 standard for vehicle safety. This standard focuses on preventing contact with high-voltage components. Due to our choice of battery supplier and commissioning approval, our batteries also meet the even stricter requirements of the R100 regarding REESS (Rechargeable Energy Storage Systems) systems. While not mandatory, it adds an extra level of safety.





Batteries

Mega capacity

The crawler excavator is equipped with 2x interchangeable batteries, also known as Powerbox 400's. These 2x Powerbox 400's provide a combined capacity up to 800 kWh with a nominal system voltage of 600 V. By utilizing the high-voltage system, there is less loss and greater efficiency achieved through the Powerbox 400. The interchangeable Powerbox 400 in the Electric machines are one of the most important components of the machine.

Powerbox 400

Our Powerbox 400 consist of LFP-modules, which are fully recyclable. An EoL (End of Life) declaration is issued for the Powerbox 400. In the current application, where the Powerbox 400 have a temperature management system (active climate control system), a lifespan of 3,000 charging cycles is provided, which equates to a lifespan of approximately 15 years. At that point, the Powerbox 400 still retains 80% of its original capacity, making it suitable for a second life.

The second life of the batteries involves residential or commercial energy storage systems in combination with solar panels or wind turbines. These batteries can serve as energy storage systems for an additional period of ten years. After this, the batteries reach the end of their life (End of Life) and can be recycled up to 100%.

TECHNICAL SPECIFICATIONS

ELECTRIC DX355LC

ELECTRIC MOTOR

The Danfoss electric motor is based on Synchronous Reluctance Assisted Permanent Magnet (SRPM) technology. They are liquid-cooled and designed to operate in heavy-duty operating conditions. Due to their compact dimensions, they have a lower weight and higher efficiency compared to conventional electric motors.

Nominal power

200 kW

UNDERCARRIAGE EXCAVATOR

The excavators are built exceptionally strong using high-quality materials with a long lifespan. All welds are designed to minimize material stress.

- Trackrollers lubricated for the entire lifespan;
- Individual rollers and sprockets equipped with cantilever seals;
- Track plates made from induction-hardened alloy with three-rib plates;
- Heat treated connecting pins tensioning mechanism;
- Hydraulic track tensioner with shock-absorbing mechanism.

Top rollers (standard track plate)

2

Bottom rollers

9

Number of links and track plates per side

48

Toggle distance

216 mm

HYDRAULIC SYSTEM

The electronic power optimization system (e-EPOS) is the brain of the excavator. It minimizes energy consumption and optimizes the efficiency of the hydraulic system under all operating conditions. In order to harmonize the electric motor and the hydraulics, the e-EPOS is connected to the electronic control unit of the electric motor via a data connection.

- The hydraulic system allows independent or combined operation;
- Two travel speeds provide either more torque or higher speed;
- Cross-sensing and energy-saving pump system;
- Automatic system for lower rpm;
- Four operating modes and four power modes;
- Flow rate and pressure control of auxiliary hydraulics from the control panel;
- Computer-assisted control of the pump flow.

Main pumps (at 1800 rpm)

Two axial piston pumps with variable stroke

2 x 248 l/min

Gear pump (at 1800 rpm)

27 l / min

LIQUID CONTENTS

Hydraulic oil tank

280 l

Slewing drive

7 l

Drive facility

2 x 7 l

Radiator

40 l

DRIVING

Each of the tracks is powered by an independent axial piston motor with high torque, driven through planetary reduction gears. Two levers/control pedals ensure smooth operation with counter-rotation when desired. The track frame protects the drive motors, brakes, and planetary gears. The track brakes have multiple discs that are pressed by a spring and hydraulically released.

Driving speed (low – high)

3,0 - 5,5 kmh

Maximum traction

35 t

Maximum climbing capability

35°/ 70%

SLEWING MECHANISM

For the slewing mechanism, an axial piston motor is used to drive a two-stage planetary gear in an oil bath for maximum torque.

- Slewing bearing: single row sliding ball bearing, with induction-hardened internal gear;
- Internal gear and pinion immersed in lubricant.

Maximum slewing speed

9,88 rpm

Maximum slewing torque

12137 kgf - m



TECHNICAL SPECIFICATIONS

ELECTRIC DX355LC

BATTERY

PATENTED

Designed to deliver superior performance with the highest electrical efficiency, the Powerbox 400 fully complies with all necessary safety certifications.

Model
Powerbox 400

Gross capacity (2 x Powerbox 400)
800 kWh

Maximum load capacity
120 kW

Charge protocol
ISO-15118

Nominal voltage system
600 V DC

Certifications
- R100.3
- IP68

Charging options
2 x type 2 AC charging connector on the machine in combination with 2 x 22kW On Board Chargers.
2 x CCS type 2 DC fastcharge connector directly on both Powerbox 400's in combination with 2 x 120 kW Chargers.

Battery type
LFP

Temperature
Active Climate Control System

AC CHARGING (ON MACHINE)

Charging connector
2 x Type 2

Charging capacity
2 x 22 kW AC

Charging time (380 V/ 63 A)
8h 45min (per Powerbox 400)

Charging time (380 V/ 32 A)
17h 30min (per Powerbox 400)

DC CHARGING

Charging connector
Combo CCS Type 2

Charging capacity
120 kW DC (per Powerbox 400)

Charging time (0 - 90%)
3h 20min (per Powerbox 400)





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DISCOVER INNOVATION

ELECTRIC

Specifications and design are subject to change without notice. Images of the products in the brochure may differ from the standard version.