

Weight	55 tons
Bucket capacity	3,500 litre
Nominal power	294 kW
Interchangeable battery capacity	1,200 kWh

ELECTRIC
DX555LC
Crawler excavator



Meet the king of zero-emission excavators

ELECTRIC
DX555LC

Lift your company to the next level with the DX555LC Electric! The DX555LC Electric crawler excavator is exceptionally powerful and also completely emission-free. What more could you ask for?



Top performances and capacity

The ability to be more productive

The DX555LC 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 nominal power is 294 kW and the continuous torque is 1,860 Nm.

Features and benefits

- Extremely compact and robust structure
- Highest efficiency (over the entire operating range) on the market
- IP65 enclosure class
- Liquid cooled



Emission-free and high productivity

This electric crawler excavator is unique in its kind and has many qualities. We have already listed some of its striking features and points of intelligence.

Plug and Play

Available 2D and 3D GPS* for machine control with ready-made kits for different brands (e.g. Trimble, Topcon, Leica and Makin).

**Not available as standard, only as an option.*

High productivity and low costs

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

Safety

360° camera system*, large side mirrors, strong halogen- or LED-worklights and non-slip steps and platforms. Railing on the upper structure, ultrasonic obstacle indicator* and travel alarm. Your safety is our priority.

**Not available as standard, only as an option.*

Lifetime undercarriage

For optimum service life, the machine is developed with high-quality materials, parts and components. This involves using forged steel and hardened toprollers with oil lubrication, heat-treated sprockets, backing plates made of induction-hardened alloy and heat-treated oil-lubricated track chains.

Uptime

Deployment: a full working day* with the use of three Powerbox 400 battery packs, with a combined capacity of 1,200 kWh

**Subject to circumstances and environment.*

Comfort

One of the most spacious cabs on the market, with low noise and vibration levels and an excellent all-round visibility. The seat is fully adjustable, heated and equipped with air suspension. In the cabin, air conditioning with climate control is standard.

Counterweight

The three interchangeable Powerboxes, 3140 kg each, provide an optimal counterweight. When one of these Powerboxes is removed from the machine for charging, a dummy box* of the same weight (3140 kg) can be put in its place. This keeps the machine perfectly balanced at all times.

**Not available as standard, only as an option.*



Energy

Continuous availability

Thanks to the three easy-to-change Powerbox 400 battery packs and the possibility of working with two Powerboxes 400 and a dummy box*, while simultaneously charging the third Powerbox 400 outside the machine, it is possible to operate the machine 24/7.

Each Powerbox 400 battery pack consists of LFP batteries. The nominal system voltage is 600 V DC and the available gross capacity per Powerbox 400 is 400 kWh. The high-voltage system increases the efficiency of the Powerbox by minimising losses during energy transfer.

We deliberately chose a battery switching system in the DX555LC Electric. This ensures continuous uptime of the machine and allows you to recharge whenever and wherever you want, without having to move the entire machine. Changing a Powerbox 400 is just as quick and fast as refuelling your diesel machine.

**Not available as standard, only as an option.*

Charging facility

Using the electric crawler excavator goes hand in hand with a well-regulated power supply. It is essential to determine in advance how the charging facilities for the Powerbox 400 are set up on the job site. We are ready to advise you on this, feel free to contact us.

The Powerbox 400 is equipped for DC charging with 120 kW as standard, so you can get back to work quickly.

Below you can see the charging time*:

**indicated charging time from 0% SOC (State of Charge) to 100% SOC.*

120 kW - DC (Per Powerbox 400)

3 hours and 20 minutes charging time

Smaller grid connection

With a smaller grid connection, we recommend charging per Powerbox 400 with 30 kW DC overnight. This ensures that the battery is fully charged in 13 hours. By spreading the charging over the night, the power demand over your grid connection is optimally distributed. This helps prevent peaks and ensures that the available capacity is used efficiently.

Questions about which charging options best suit your business? Feel free to contact us, we will be happy to advise you!



Lifespan

Our Powerbox 400 consist of Lithium Ion batteries of the LFP (Lithium Iron Phosphate) type, which means they are basically fully recyclable. An End of Life (EoL) declaration is issued for the batteries. In the application as the Powerbox 400 are used, they have a lifespan of 3,000 charge cycles.



Available for a full working day

The Electric DX555LC crawler excavator has an uptime of a full working day*, which means that the user can work with it for a whole day without having to recharge or change in the meantime. At night, the Powerboxes can be easily recharged**, so you can get back to work with maximum power the next day.

**Subject to conditions and environment.*

***We are happy to advise you on this, please contact us.*

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 30 degrees outside in the blazing sun or minus 15°C in the freezing cold. Furthermore, this also optimizes the battery's lifespan.

Maximum flexibility

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

Reliability

The drivetrain of the DX555LC Electric consists of main components that are developed and manufactured by European manufacturers. As a result, you can rely on excellent availability of replacement parts and good service throughout Europe.

Interchangeability

Because the Powerbox 400 batteries are built universally, they can be used in all of our different models of electric excavators. This allows for smarter switching when working with several electrical machines and when you have various energy needs.

Multi functional Powerbox 400

The interchangeable Powerboxes 400 in the DX555LC 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 “stand-alone” electric generator. Combined with our Fieldmaster, the Powerbox 400 offers a flexible solution for power supply on construction sites or other locations.

Working 24/7 non-stop

Thanks to our patented interchangeable Powerboxes you can work 24/7 non-stop. In fact, it is possible to work with two Powerboxes 400 and a dummy box*, while the third Powerbox 400 is simultaneously charging outside the machine.

**Not available as standard, only as an option.*

Fieldmaster DC



Certification

ISO 5006-standards

This international standard specifies a test method for determining and evaluating the operator's visibility. By using cameras and mirrors, the operator always maintains an optimal overview, without any obstruction. The machine complies with the standard and its strict requirements.

Safety guaranteed

Working with electrical machines requires compliance with a lot of laws and regulations. It is hugely important to be able to guarantee health and safety for the operator, bystanders 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. UN ECE R10, ISO 13766 (EMC Excavator), 2006/42/ EC, UN ECE R100.03 vehicle and NEN ISO 5006 standardisation are examples of specific safety requirements that our electric excavator complies with.

UN ECE 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. We apply the UN ECE R10 in addition to the ISO 13766 assessment.

UN ECE R100.03

When designing our vehicles, safety is always at the forefront. We therefore paid special attention to preventing contact with high-voltage components. In addition, our batteries meet the stringent requirements of UN ECE R100.03 for REESS (Rechargeable Energy Storage System) systems. Although not mandatory, we consciously choose these additional safety measures to take the reliability and safety of our vehicles to a higher level.

What also sets our vehicles apart is that the REESS system is officially certified in accordance with UN ECE R100.03. This certificate underlines our commitment to safety and quality and is unique in its kind. The entire electrical machine is designed in accordance with the requirements of UN ECE R100.





Batteries

1,200 kWh capacity

This electric crawler excavator contains three interchangeable batteries, also called Powerbox 400. The three Powerbox 400 provide a combined gross capacity of up to 1,200 kWh with a nominal system voltage of 600 V DC. By using the high-voltage system, there is less loss and greater efficiency is achieved. The interchangeable Powerbox 400 in the Electric machines are one of the key components of the machine.

Ideal all-rounder

Due to its relatively small size, this makes the Powerbox 400 the ideal all-rounder in the field and can be used well and quickly in many situations:

Smart placement on site

In urban areas, the Powerbox 400 simply fits on the pavement or even several in one parking space.

Quickly exchangeable

The Powerbox 400 is available with a one-point hitch allowing it to be changed within five minutes.

Compact transport

Eight Powerboxes 400, with a combined capacity of 3.2 MWh, fit on one low-loader.

Fieldmasters

Fieldmasters are available in two variants: DC and AC. The Fieldmaster DC can be used between an external battery and an electric machine or drive system. It allows you to quick charge a machine or vehicle from the Powerbox 400.

The Fieldmaster AC draws AC voltage from the Powerbox 400 and has several outputs with a total power of 100kW. This allows you to charge or power any device you want. Think of applications such as a site cabin, construction lift, drainage pump or charging other electrical equipment such as a kettle, coffee machine etc.

TECHNICAL SPECIFICATIONS



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 motors.

Nominal power

294 kW

Maximum torque

1,860 Nm

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)

3

Bottom rollers

9

Number of links and track plates per side

53

Toggle distance

215.9 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.

- 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 390 l/min

Gear pump (at 1800 rpm)

24 l/min

LIQUID CONTENTS

Hydraulic oil tank

390 litre

Slewing drive

2 x 5 litre

Drive facility

2 x 9 litre

Radiator

52.5 litre

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 frame of the tracks can be adjusted in width be adjusted. The width with 600 mm wide tracks can (depending on the type of undercarriage) from 2.99 to 3.49 metres (narrow undercarriage) and from 3.34 to 3.90 metres (wide undercarriage).

Driving speed (low - high)

3.2 - 5.6 km/h

Maximum traction

45.7 tons

Maximum climbing capability

35° / 70%

SLEWING MECHANISM

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

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

Maximum slewing speed

9.2 rpm

Maximum slewing torque

20130 kgf - m



TECHNICAL SPECIFICATIONS

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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 (3 x Powerbox 400)

1,200 kWh

Maximum load capacity

120 kW

Charge protocol

DIN SPEC 70121 en ISO 15118

Nominal voltage system

600 V DC

Certifications

UN ECE R100.03, op REESS niveau

Battery type

LFP

Temperature

Liquid cooled

CHARGING

Our battery technologies use 'plug & charge', DIN SPEC 70121 and the ISO 15118 communication protocol for smart charging. This enables communication between vehicles and charging infrastructure, enabling smart charging and dynamic load management*. This advanced process not only optimises the battery during charging and discharging, but also minimises network load*, which is essential for efficiency and sustainability.

*This depends on the charging infrastructure, in this we will be happy to advise you.

AC CHARGING (ON MACHINE)

Charging connector

Type 2

Load capacity

22 kW AC

Charging time (400 V/ 32 A)

17h 30min (per Powerbox 400)



Type 2

DC CHARGING (ON MACHINE)

Charging connector

Combo CCS Type 2

Load capacity

120 kW DC (per Powerbox 400)

Charging time (0-100%)

3h 20min (per Powerbox 400)



Combo CCS Type 2

DC CHARGING (ON THE POWERBOX 400)

Charging connector

Combo CCS Type 2

Charging connector

120 kW DC (per Powerbox 400)

Charging time (0-100%)

3h 20min (per Powerbox 400)



Combo CCS Type 2

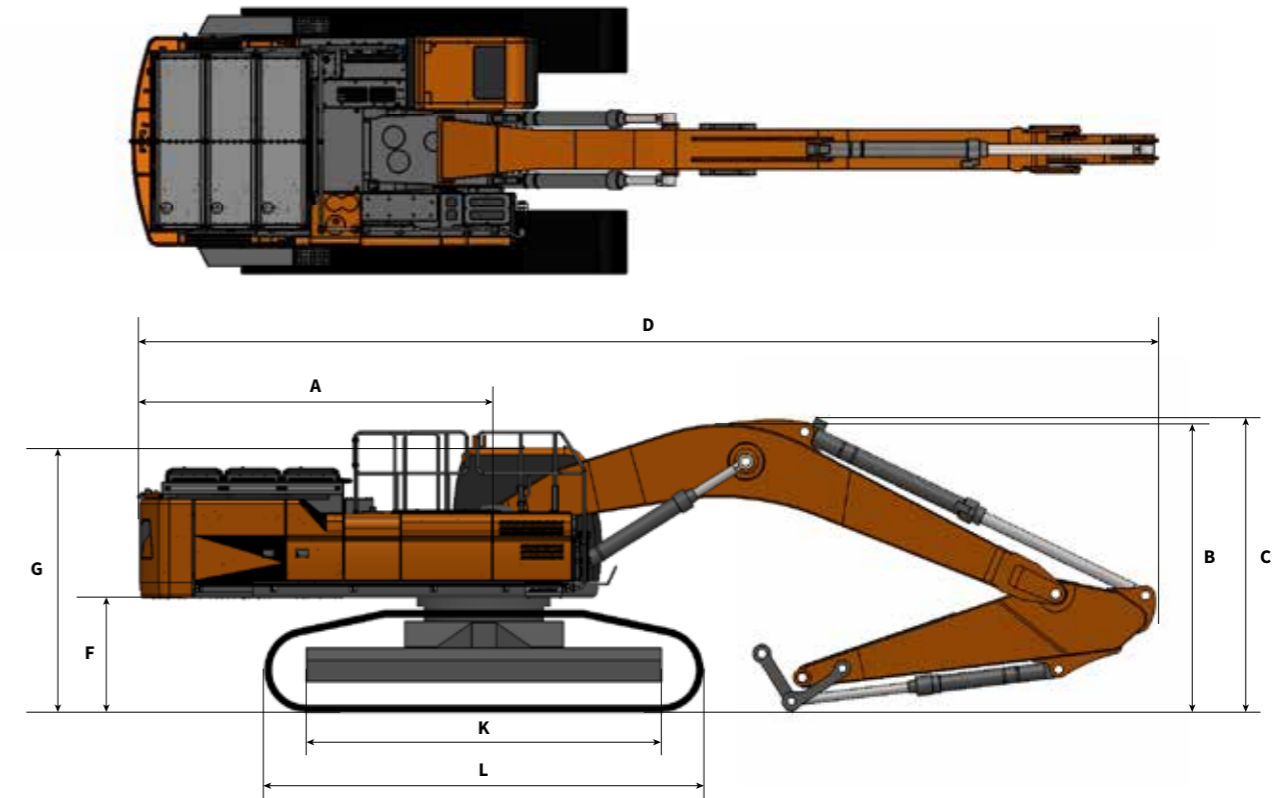
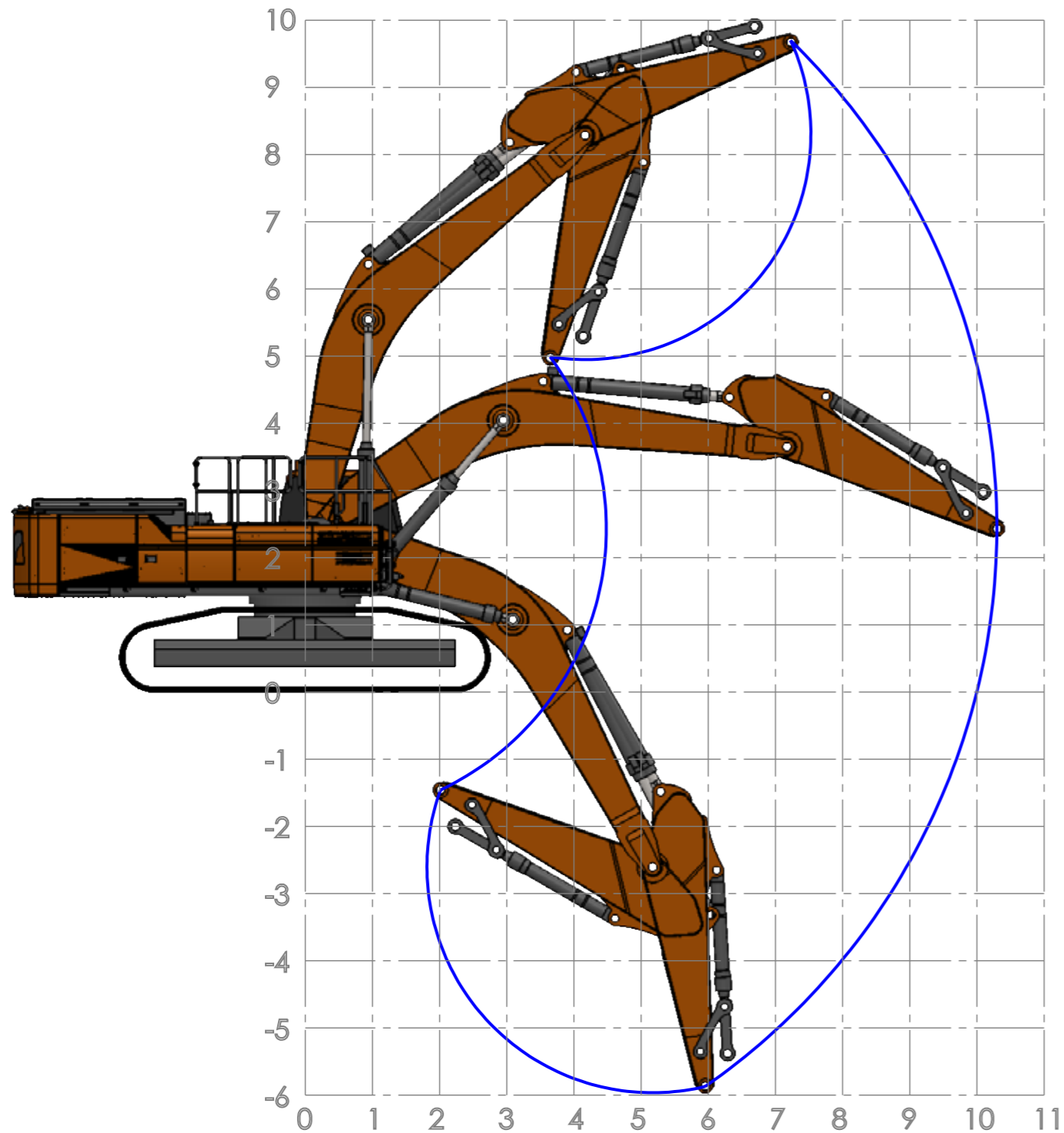


Patent

The granted patent that applies to our Powerboxes is a unique technical design that makes it possible to use the battery in the machine, but can also be used as a "stand-alone" battery. This means that the battery can be charged and discharged without a machine. The flexible nature of the battery ensures that the battery can be charged and discharged separately from the machine.

TECHNICAL SPECIFICATIONS

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Dimensions (mm)

One-piece boom

	One-piece boom		
Boom length	7100		
Length of arm	2900	3350	3980
Bucket capacity m³	2.39	2.14	1.80
A Rear swing radius	4320	4320	4320
B Transport height (boom)	3800	3580	3815
C Transport height (hose)	3895	3705	3910
D Transport length	12850	12750	12830
E Transport width wide track	3340	3340	3340
E Transport width narrow track	2990	2990	2990
F Clearance under counterweight	1430	1430	1430
G Height to top of cab	3350	3350	3350
H Superstructure width	2990	2990	2990
I Cabin height above superstructure	645	645	645
J Cab width	1010	1010	1010
K Axle distance idlers	4475	4475	4475
L Length of track chain	5455	5455	5455
M Wide track undercarriage width (retracted)	3340	3340	3340
M Narrow track undercarriage width (retracted)	2990	2990	2990
N Track shoe width	600	600	600
O Track height (without ribs)	1180	1180	1180
P Ground clearance (without ribs)	730	730	730



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Crawler excavator

DISCOVER INNOVATION



ELECTRIC

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