

**Schäffer**



# ELECTRIC LOADERS

Emission-free, powerful and quiet





## ELECTRIC YARD LOADER 16E: COMPACT, EMISSION-FREE AND VERSATILE

The electric yard loader 16e masters even the tightest working environments with ease. Based on the proven 1622 model, the 16e offers emission-free working and opens up new application possibilities in stables and agricultural facilities where manual labour or larger machines were previously required.

While the animals feed in peace and quiet, the 16e takes care of supplies - without any noise or exhaust fumes. With a width of just 0.89 m and a height of 1.99 m, it fits through the narrowest doors and gates and even reaches areas that are difficult to access.

Whether transporting feed, mucking out or maintenance work - the 16e performs a variety of tasks thanks to its compact dimensions and the wide range of Schäffer attachments. With a low operating weight of just 1,345 kg, the loader is particularly gentle on the ground outdoors

and is ideal for concrete slatted floors indoors. The lifting height of 2.23 m and the hydraulic output of 28 l/min provide the necessary power for any task.

Equipped with energy-efficient LED lights and a 9.6 kW electric motor, which is powered by a 48 V lithium-ion battery, the 16e offers up to two and a half hours of operating time for medium loading tasks. The battery pack can be charged either from commercially available wall-boxes with a Type 2 plug or from 230 V power outlets. With both variants, charging the battery pack to 80 per cent capacity takes around 2.5 hours.

The self-generated electricity from a photovoltaic or bio-gas system can be used economically and in an environmentally friendly manner. The new Schäffer 16e electric yard loader offers a pioneering solution for agriculture - emission-free, quiet and efficient.

## ADVANTAGES AT A GLANCE



### Standard equipment 16e

- Electric motor 9,6 kW
- Hydrostatic four wheel drive with automotive control
- Li-Ion battery pack, 48 V / 12,2 kWh
- On-board charger with Type 2 connector enables charging at a 230V power outlet or a wallbox
- Charging cable type 2 / CEE 16 A, 4 m
- Battery management system
- Energy recuperation
- Eco mode to extend the operating time
- Tyres 23x8.50-12 AS, offset +60
- Genuine Schäffer axle, 5 hole
- Hydraulic oil cooler
- Drum brake as parking brake
- Maintenance free articulated pendulum joint
- Restraining system for protection roof
- 1 x LED working headlight front on the boom
- Parallel lift
- Mechanically operated additional controller
- Silence gear pump, especially quiet
- Working hydraulics: 28 l/min
- Adjustable steering column
- Hour meter and charging status display
- Driver-on-board switch
- Quick-change frame SWH with hydraulic tool lock



# ELECTRIC YARD LOADER FULL OF ACTION



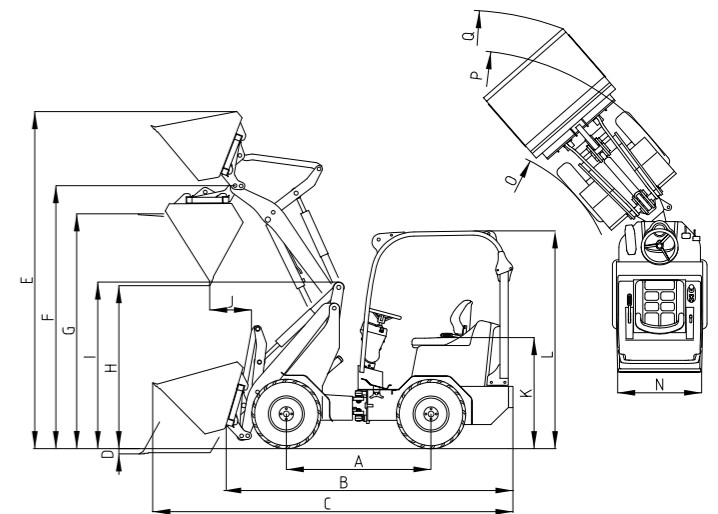
## 16e

### Technical data, dimensions

		16e
Engine		Electric motor, 9,6 kW
Drive unit		Hydrostatic four wheel drive with automotive control
Battery		Li-Ion battery pack, 48 V / 12.2 kWh
Charging system		On-board charger with Type 2 connector enables charging at a 230V power outlet or a wallbox
Tyres		23 x 8.5 - 12 AS Option I 23 x 8.5 - 12 SKD/MultiTrac Option II 23 x 10.5 - 12 AS/MultiTrac
Service braking system		hydrostatic
Parking brake		mechanical drum brake
Working hydraulics Output/pressure		Delivery rate: 28 l/min Operating pressure: 200 bar
Steering		Fully hydraulic articulated/swivel steering
Operating weight		1,345 kg
Lifting capacity		810 kg
Tipping load, straight <sup>1</sup>		
Pallet fork		630 kg
Bucket		850 kg
Tipping load, articulated <sup>1</sup>		
Pallet fork		430 kg
Bucket		550 kg
Payload		
Pallet fork, even ground <sup>2</sup>		344 kg
Pallet fork, uneven ground <sup>2</sup>		258 kg
Bucket <sup>3</sup>		275 kg
Axles		Original Schaeffer axles, 5 wheel nut rim
Speed		16 kph
Electric system		Operating voltage: 12 V
Fill quantities		Hydraulic oil: 22 l
Sound pressure level LpA		71 dB(A)
Sound power level guaranteed LWA equivalent LWA		99 db(A) 90 db(A)
Hand/arm vibration <sup>4</sup>		< 2,5 m/s <sup>2</sup>
Total body vibration <sup>4</sup>		< 0,5 m/s <sup>2</sup>

<sup>1</sup> acc. to ISO 8313 <sup>2</sup> acc. to EN 474-3 <sup>3</sup> acc. to ISO 14397-1 <sup>4</sup> acc. to ISO 8041  
Tyre dimensions and additional equipment can change the operating weight, tipping load and payload.

		16e
A	Wheelbase [mm]	1,345
B	Chassis length [mm]	2,450
C	Overall length with standard bucket [mm]	3,050
D	Digging depth [mm]	80
E	Max. working height [mm]	2,635
F	Max. bucket pivot point [mm]	2,230
G	Loading height with pallet forks [mm]	2,020
H	Max. dumping height [mm]	1,510
I	Front end height [mm]	1,390
J	Dumping width [mm]	195
K	Seat height [mm]	1,010
L	Protective roof height [mm]	1,990
N	Overall width [mm]	890 / 1,060
O	Inner turning radius [mm]	970
P	Outer turning radius [mm]	1,875
Q	Outer radius with standard bucket [mm]	2,222



All technical specifications in this prospectus refer to serial models and describe their standard functions. The equipment components and their functions as well as the accessories depend on the individual model and the product options and also on the country and customer specific requirements. Images may contain products or equipment components which are not mentioned or cannot be obtained as a standard. The descriptions, measurements, images, weight specifications and technical data correspond to the state of the art at the time of printing and are non-binding.

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# EMISSION-FREE OPERATION – A BENEFIT IN MANY APPLICATIONS

23e, 23e T

The 23e electric yard loader and the 23e T electric telescopic wheel loader also stand for emission-free work: exhaust gases and noise are now a thing of the past. This is a significant advantage when working inside, but as animals, people and the environment all benefit from clean air and extremely low noise levels, the loaders are well suited to use in outside stables, barns, sheds, storage depots, warehouses and riding arenas too. The innovative water cooling system contributes to clean ambient air with these loaders, and regulates the temperature of both electric motors, removing the need for an oversized fan and the associated dust and straw turbulence that comes with it.

The output of these electric loaders corresponds to that of a 45 HP diesel machine. The electric loaders are also a match for its diesel counterpart when it comes to performance: tipping load and lifting height are almost identical for electric and diesel engines. Of course, existing tools can be used on the 23e T\*.

All other advantages which distinguish the proven Schäffer diesel loaders are also standard. These include the maintenance-free articulated pendulum joint and the original Schäffer axles, which guarantee high thrust forces.

Both electric loaders reach a speed of 20 kph. The typical rapid acceleration of an electric vehicle comes as standard, powered by the 21 kW electric motor, which is responsible for the traction drive. It is flanged directly to the rear axle to ensure direct power transmission of the torque. The new electric loaders are a pleasure to drive and has all the technology and power needed to make light work of most tasks.

\* hydraulically driven attachments require separate oil cooling on the attachment.



## 23E, 23E T: THE INNOVATIVE ELECTRIC LOADERS

- **100 % emission-free:** no exhaust fumes, no noise
- **Efficient high-voltage technology,** hydraulics and drive each powered by their own electric motor
- **Available battery capacities: 15.65 kWh or 31.3 kWh for the 23e and 31.3 kWh for the 23e T:** hours of normal use, maintenance-free.
- **On-board charger with type 2 charging socket for charging from a 230 V socket (3 kW) or a wallbox (11 kW).** 80% battery charge with the wallbox in just 2.2 hours (31.3 kWh battery) or 1.1 hours (15.65 kWh battery).
- **Battery life warranty:** 5,000 operating hours or 5 years, whichever comes first
- **Energy recuperation:** automatic charging of the battery, e. g. during braking processes
- **Significant savings:** reduced maintenance costs and lower operating costs compared to diesel machine or other battery concepts, due to better efficiency
- **No memory effect:** recharging possible at any time
- **Safe temperature regulation:** reliable water cooling of the entire system
- **20 kph:** the only battery-powered wheel loader with a top speed of 20 kph
- **Hill-Hold function:** 'start up assistant' to make hill starts easier

**Li-Ion** 

### 23e as standard

- Electric motor drive: 21 kW; electric motor working hydraulics: 9,7 kW
- Electric four wheel drive with cardan shaft
- Li-Ion battery pack, 240 V / 15.65 kWh (31.3 kWh on option)
- On-board charger with type 2 connector enables charging at a 230 V power outlet (3 kW) or a wallbox (11 kW)
- Battery management system
- Energy recuperation
- Hill-Hold funktion: 'start up assistant' to make hill starts easier
- Tyres 10.0/75-15.3 AS, offset +40
- 20 kph
- Eco mode to extend the operating time
- Genuine Schäffer axle, 6-hole
- Water cooling of electric motors
- Multiple disk brake, maintenance free; service and parking brake
- Maintenance free articulated pendulum joint
- Restraining system for protection roof
- LED working headlights on protection roof version: 1 x on the boom; cabin version: 2 x front, 1 x rear
- Acoustic reverse warning signal (can be switched off)
- Parallel lift
- Electronically operated additional controller
- Working hydraulics: 42 l/min
- Adjustable steering column
- Hour meter and charging status display
- Rear weight end plate
- Main battery switch
- Driver-on-board switch
- Quick-change frame SWH with hydraulic tool lock



# 23e, 23e T



Video 23e:  
schaeffer.de/en/23e



# 23e

## Technical data, dimensions



## MAXIMUM EFFICIENCY – MINIMUM CHARGING TIMES THANKS TO INNOVATIVE LITHIUM-ION TECHNOLOGY

When developing the 23e electric loader, achieving maximum energy efficiency alongside emission-free operation was of real importance.

All components of the drive system are perfectly matched to the electric drive. Together with the lithium-ion battery, the loader achieves an efficiency about three times as high as that of a comparable diesel engine. This means that only one third as much energy is needed to operate the machine. Maintenance of the electric motors and battery takes considerably less effort too, which further reduces the costs per operating hour. If there's a biogas plant or a photovoltaic system at the site of operation, the 23e will be even more economical to use.

With the help of the standard type 2 plug and an 11 kW wallbox, the large battery pack can be charged to 80 % in just 2.2 hours. With the small package, this time is halved. Alternatively, it can also be charged using 230 V / 3 kW household power.

The use of lithium-ion technology makes the 23e a real innovation. The customer receives a guarantee of 5,000 operating hours or five years of use, whichever comes first. It can be charged at any time without affecting the lifetime of the batteries - another advantage of lithium-ion technology.

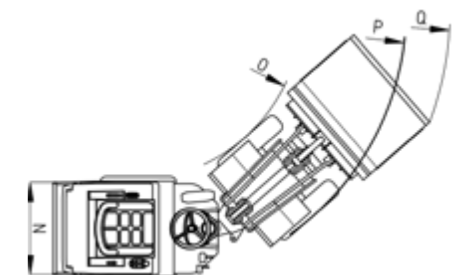
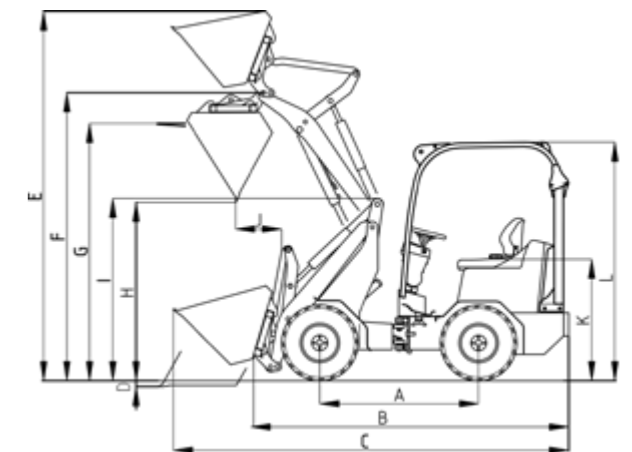
	23e
Engines	Drive: 21 kW Working hydraulics: 9.7 kW
Drive unit	4-wheel-drive, fully electric
Battery	Lithium-Ion, 240 V; 15.65 kWh or 31.3 kWh
Charging system	On board charger, 3 kW/230 V/16 A Option: wallbox, 11 kW
Tyres	10.0/75 - 15.3 AS Option I 27x10.5-15 Option II 31x15.5-15
Service braking system	Multi-disc brake running in oil bath
Parking brake	
Working hydraulics Output/pressure	Delivery rate: 42 l/min Operating pressure: 180 bar
Steering	Fully hydraulic articulated/swivel steering
Operating weight	2,240 / 2,305 kg with cabin
Lifting capacity	1,700 kg
Tipping load, straight <sup>1</sup>	Pallet fork 1,048 - 1,321 kg Bucket 1,250 - 1,578 kg
Tipping load, articulated <sup>1</sup>	Pallet fork 660 kg Bucket 960 kg
Payload	Pallet fork, even ground <sup>2</sup> 528 kg Pallet fork, uneven ground <sup>2</sup> 396 kg Bucket <sup>3</sup> 480 kg
Pallet fork, even ground <sup>2</sup>	
Pallet fork, uneven ground <sup>2</sup>	
Axles	Original Schaeffer axles, 6 wheel nut rim
Speed	20 kph
Electric system	Operating voltage: 12 V
Fill quantities	Hydraulic oil: 15 l
Sound pressure level LpA	64 dB(A)
Sound power level guaranteed LwA equivalent LwA	99 dB(A) 90 dB(A)
Hand/arm vibration <sup>4</sup>	< 2.5 m/s <sup>2</sup>
Total body vibration <sup>4</sup>	< 0.5 m/s <sup>2</sup>

<sup>1</sup> acc. to ISO 8313 <sup>2</sup> acc. to EN 474-3 <sup>3</sup> acc. to ISO 14397-1 <sup>4</sup> acc. to ISO 8041

Tyre dimensions and additional equipment can change the deployment weight, tilting load and bucket capacity.

	23e
A	Wheelbase [mm] 1,550
B	Chassis length [mm] 3,230
C	Overall length with standard bucket [mm] 3,880
D	Digging depth [mm] 90
E	Max. working height [mm] 3,570 / 3,800*
F	Max. bucket pivot point [mm] 2,880 / 3,110*
G	Loading height with pallet forks [mm] 2,680 / 2,960*
H	Max. dumping height [mm] 2,045 / 2,300*
I	Front end height [mm] 1,690 / 1,790*
J	Dumping width [mm] 470
K	Seat height [mm] 1,160
L	Protective root height [mm] 2,190 Cab height [mm] 2,140
N	Overall width [mm] 1,020 - 1,570
O	Inner turning radius [mm] 1,200
P	Outer turning radius [mm] 2,220
Q	Outer radius with standard bucket [mm] 2,865

\* Option: high lift





# 23e T



## 23E T: THE ELECTRIC TELESCOPIC WHEEL LOADER FOR THAT EXTRA RANGE

Schäffer unveiled its first conventionally powered telescopic wheel loader in 1994. Over the following decades, Schäffer evolved into the leading supplier of articulated telescopic wheel loaders, offering a diverse range with operating weights from 2.8 t to 13 t.

With the 23e T, Schäffer introduced the world's first fully electric telescopic wheel loader, further enhancing its expertise in this area. From a technical perspective, the 23e T is

based on the 23e wheel loader. Thanks to its telescopic arm, the 23e T has a lifting height of 3.72 m, is available with either an overhead guard or cab and offers a tipping load with pallet fork of 1.3 t at a weight of 2.8 t. The articulated joint makes the machine particularly agile; the inner turning radius is just 1.15 m. Depending on the tyres, the 23e T measures between 1.41 m and 1.59 m in width with an overall height of 2.19 m with an overhead guard or 2.14 m with a cab.

### Standard equipment 23e T

- Electric motor drive: 21 kW; electric motor working hydraulics: 9,7 kW
- Electric four wheel drive with cardan shaft
- Li-Ion battery pack, 240 V / 31.3 kWh
- On-board charger with Type 2 connector enables charging at a 230 V power outlet (3 kW) or a wallbox (11 kW)
- Charging cable type 2 / CEE 16 A, 4 m
- Battery management system
- Energy recuperation
- Hill-Hold funktion: 'start up assistant' to make hill starts easier
- Tyres 31x15.5-15 AS, offset 0
- 20 kph
- Eco mode to extend the operating time
- Original Schäffer axles, wide design
- Ferro-form sliding elements in the telescopic arm
- Tool cylinder in the telescopic arm
- Electric pressure relief of hydraulic couplings (on the steering tower and telescopic arm)
- Water cooling of electric motors
- Multiple disk brake, maintenance free; service and parking brake
- Maintenance free articulated pendulum joint
- Restraining system for protection roof
- LED working headlights on protection roof version: 1 x on telescopic arm; cabin version: 2 x front, 1 x rear
- Acoustic reverse warning signal (can be switched off)
- Z-bar boom with parallel lift
- Electronically operated additional controller
- Working hydraulics: 42 l/min
- Adjustable steering column
- Hour meter and charging status display
- Counter weight 100 kg mounted under rear chassis
- Rear weight end plate and towing hitch
- Main battery switch
- Wide chassis with wider fender
- Driver-on-board switch
- Quick-change frame SWH with hydraulic tool lock

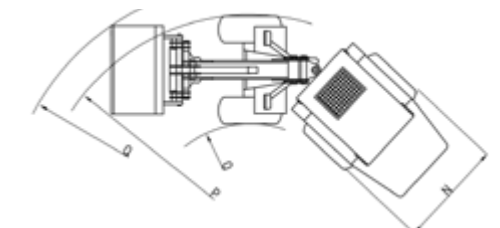
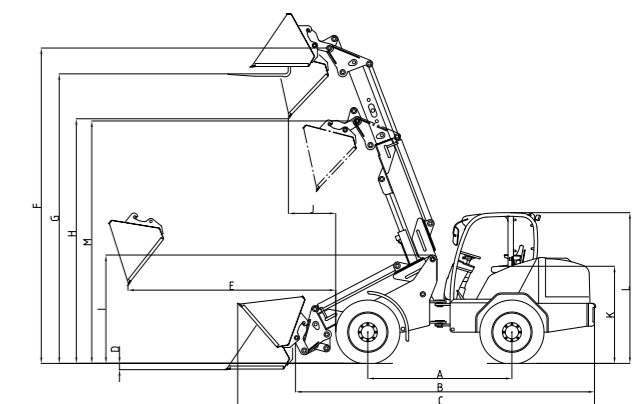
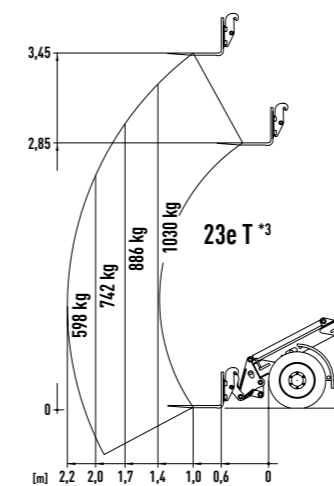
# 23e T

## Technical data, dimensions



23e T	
Engines	Drive: 21 kW Working hydraulics: 9.7 kW
Drive unit	4-wheel-drive, fully electric
Battery	Lithium-Ion, 240 V; 31.3 kWh
Charging system	On board charger, 3 kW/230 V/16 A wallbox, 11 kW
Tyres	31x15.5-15 AS Option: 31x15.5-15 SKD
Service braking system	Multi-disc brake running in oil bath
Parking brake	
Working hydraulics Output/pressure	Delivery rate: 42 l/min Operating pressure: 180 bar
Steering	Fully hydraulic articulated/swivel steering
Operating weight	2,750 / 2,815 kg with cab
Lifting capacity	1,600 kg
Tipping load, straight*1	1,275 kg
Axles	Original Schäffer axles, 6 wheel nut rim
Speed	20 kph
Electric system	Operating voltage: 12 V
Tank capacity	Hydraulic oil: 30 l
Sound pressure level LpA	64 dB(A)
Sound power level guaranteed LwA equivalent LwA	99 db(A) 90 db(A)
Hand/arm vibration*2	< 2.5 m/s <sup>2</sup>
Total body vibration*2	< 0.5 m/s <sup>2</sup>

23e T		
A	Wheelbase [mm]	1,870
B	Chassis length [mm]	3,900
C	Overall length with standard bucket [mm]	4,700
D	Digging depth [mm]	90
E	Reach [mm]	1,570
F	Max. bucket pivot point [mm]	3,720
G	Loading height with pallet forks [mm]	3,470
H	Max. dumping height [mm]	3,010
I	Front end height [mm]	1,580
J	Dumping width [mm]	820
K	Seat height [mm]	1,160
L	Protective roof height [mm] Cab height [mm]	2,190 2,140
M	Swivelling point, telescopic arm retracted [mm]	3,100
N	Overall width [mm]	1,410 - 1,590
O	Inner turning radius [mm]	1,150
P	Outer turning radius [mm]	2,650
Q	Outer radius with standard bucket [mm]	2,950



\*1 boom horizontal, not extended, with pallet fork (acc. to ISO 14397)

\*2 according to ISO 8041

\*3 using forks on stable underground (according EN 474-3)

Tyre dimensions and additional equipment can change the operating weight, tipping load and payload.





**MADE BY**  
**Schaeffer**

Schaeffer offers a programme with more than 30 different models, each adapted to your needs. Our loaders' range of operations is versatile: whether in agriculture or construction, gardening and landscaping, industrial and commercial applications, in stabling or warehouse management – Schaeffer is always your best choice.

The way Schaeffer loaders are developed, produced and serviced is unique. The real difference is our experience of more than 60 years. We think of the end user first, because we seek to make your job safer, more comfortable and more profitable. Additionally, at our Erwitte location in Germany we rely on state-of-the-art development and production technologies. Ultimately, it is our employees who continuously develop new solutions, in close contact with the end user. Years of company service together with an enduring spirit form the basis for the special competence and for our global success.

The Schaeffer name does not just mean unique product quality. It also stands for safety and optimal service that we guarantee both in Germany, Europe and around the globe.

**YOUR DEALER:**

Purchasing a Schaeffer loader is the beginning of a long-term relationship. Your machine will only remain a 100% genuine Schaeffer if you use original replacement parts. Only then will it guarantee the reliability you need, and have the right to expect. We offer you and our service partners a 24 hour delivery service – 7 days a week, 365 days a year.



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