



**23e**

## THE INNOVATIVE ELECTRIC LOADER

- **100 % emission-free:** no exhaust fumes, no noise
- **Efficient high-voltage technology,** hydraulics and drive each powered by their own electric motor
- **Standard or power battery pack:** hours of normal use, second pack can be retrofitted at any time, maintenance-free
- **Two charging options:** on board system, 230 V / 16 A or external system, 400 V / 32 A: **power battery pack can be charged up to 80 % in as little as 30 minutes!**
- **Battery life warranty:** 5,000 charging processes 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 km/h:** the only battery-powered yard loader with a top speed of 20 km/h
- **Hill-Hold function:** 'start up assistant' to make hill starts easier

**Li-Ion** 

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. We reserve changes in the field of construction, equipment, optics and technology without prior notice, due to the continuous development of the products. In case of doubts concerning the performance or the mode of operation of our products due to special circumstances, we recommend the execution of work samples under controlled conditions. We cannot exclude deviations from images or measurements, calculation errors, printing errors or incompleteness in the prospectus despite all due care. We do therefore not accept any liability for the correctness and completeness of the specifications in this prospectus. We do guarantee the proper functioning of our products within the scope of our General Terms and Conditions. Any guarantees that go beyond these are on principle not provided. Any liability beyond the ones set out in our General Terms and Conditions is excluded.



*made by* **SCHÄFFER**

Schäffer 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 – Schäffer is always your best choice.

The way Schäffer 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 Schäffer 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.

Purchasing a Schäffer loader is the beginning of a long-term relationship. Your machine will only remain a 100% genuine Schäffer 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.



### YOUR DEALER:

**Schäffer**

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0.5/05.19/HH. Technical changes reserved. Dimensions are approximate. Tyres on the pictures may vary depending on the manufacturer.

**Schäffer**

**23e**

# ELECTRIC LOADER

Emission-free, powered by lithium-ion technology



# EMISSION-FREE OPERATION – A BENEFIT IN MANY APPLICATIONS

The new electric loader 23e from Schäffer delivers emission-free operation: 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 23e is 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, and regulates the temperature of the electric motors, removing the need for an oversized fan and the associated dust and straw turbulence that comes with it.

From the outside, the electric loader is similar to the very popular 2345 diesel model, a 45 hp compact loader with an operating weight of 2.3 tonnes. The electric loader is 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 easily used on the 23e. All other advantages which distinguish the proven loaders of the Schäffer 23 series are also standard. These include the maintenance-free articulated pendulum joint and the original Schäffer axles, which guarantee high thrust forces.

The 23e is the only electric loader to reach a speed of 20 km/h. 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 23e is a pleasure to drive and has all the technology and power needed to make light work of most tasks.



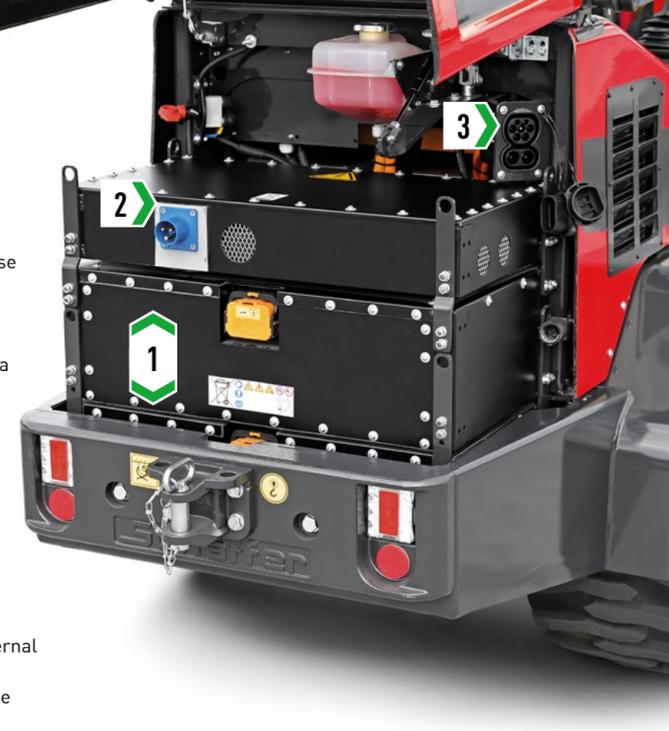
## 23e as standard

- Electric motor driving hydraulics: 21 kW; electric motor working hydraulics: 9,7 kW
- Electric four wheel drive with cardan shaft
- On board charging device 3 kW / 230 V / 16 A
- 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 km/h
- Eco mode to extend the operating time
- Genuine Schäffer axle
- Water cooling of electric motors
- Multiple disk brake, maintenance free; service and parking brake
- Maintenance free articulated pendulum joint
- Restraining system for protection roof
- 1 x LED working headlight front
- Acoustic reverse warning signal
- Parallel lift
- Electronically operated additional controller
- Working hydraulics: 42 l/min
- Adjustable steering column
- Hour meter, range display and charging status display
- Rear weight end plate
- Main battery switch
- Quick-change frame SWH with hydraulic tool lock

## A FLEXIBLY DESIGNED CONCEPT

Two battery capacities and two charging options promise flexibility for daily use.

1. The 23e can be equipped with two lithium-ion battery packs. They work with a voltage of 260 V at a respective capacity of 6.7 kWh each. One package is sufficient for common farm work, the second can be retrofitted to double the operating time to up to five hours under normal use.
2. The on-board charger fitted as standard enables the battery to be charged using a 230 V / 16 A Schuko plug. It takes around 2 hours to charge each battery pack to 80%.
3. Alternatively, the battery can be charged by an external charging system with 400 V / 32 A power current. The charging time per battery pack is just 15 minute to charge to 80%!



## 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.

The use of lithium-ion technology makes the 23e a real innovation. The customer receives a guarantee of 5,000 charging cycles 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.

## TECHNICAL DATA DIMENSIONS

		23e
Engines	Drive:	21 kW
	Working hydraulics:	9.7 kW
Drive unit	4-wheel-drive, fully electric	
Battery	Lithium-Ion, 260 V; 6.7 kWh or 13.4 kWh	
Charging system	On board charger, 3 kW/230 V/16 A Option: ext. charging system, 18 kW/400 V/32 A	
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	Delivery rate:	42 l/min
Output/pressure	Operating pressure:	180 bar
Steering	Fully hydraulic articulated/swivel steering	
Operating weight	2,300 kg	
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
Axles	Original Schäffer axles, 6 wheel nut rim	
Speed	0 - 20 kph with Eco mode	
Electric system	Operating voltage: 12 V	
Fill quantities	Hydraulic oil: 12 l	
Sound pressure level LpA	64 dB(A)	
Sound power level guaranteed LwA	99 db(A)	
	equivalent LwA	
	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	Overhead guard height [mm]	2,215
N	Overall width [mm]	1,020 - 1,570
O	Inner turning radius [mm]	835
P	Outer turning radius [mm]	1,855
Q	Outer radius with standard bucket [mm]	2,500

\* Option: high lift

