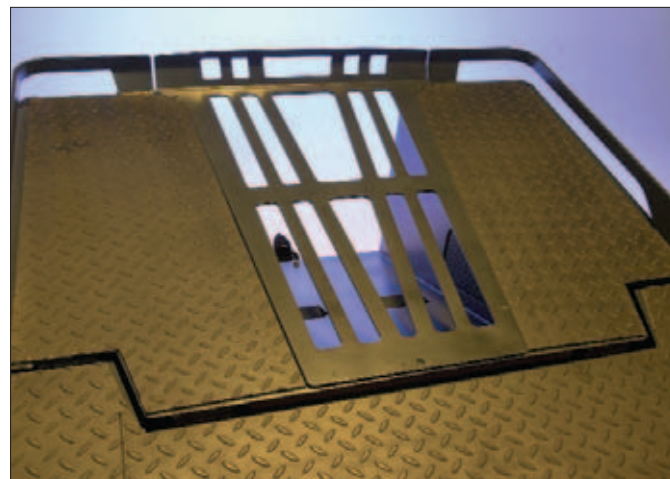


# Features



## Safety

- Three independent braking systems.
- Emergency circuit isolator.
- Keyswitch.
- Fail-to-safe circuitry.
- Traction isolated by seatswitch and/or handbrake.
- Comprehensive warning lights.
- Electric horn.
- Full road lighting.
- Excellent all-round visibility.
- Electrical overload protection.
- Driver's cab with safety glass.

## Standard equipment

All items as shown under safety.  
Four wheel configuration.  
80V circuit.  
Left or right hand drive steering position.  
Cab with sliding or hinged doors.  
Front and rear screen wipers/washers.  
Two exterior mirrors.  
Electric or diesel heater and demister.  
Interior mirror.

## Interior light.

Single pedal accelerator and direction lever.  
Remote inching control.  
Hydrostatic power steering.  
Full suspension PVC driver's seat.  
Non-suspension PVC passenger seat.  
Pneumatic tyres.  
20 kW drive motor.  
AC controller with regenerative braking.  
Comprehensive integrated display.  
Automatic single position, rear towing coupling.  
Trailer lighting socket.  
Dual circuit hydraulic disc brakes on all four wheels.  
Standard colour scheme – vermilion and charcoal grey.

## Batteries and chargers

P 250 SWB – 80 V, 400 to 560 Ah to DIN 43536A.  
P 250 LWB – 80 V, 600 to 840 Ah to DIN 43536A.  
P 250 SWB – 72 V, 400 to 560 Ah.  
P 250 LWB – 72 V, 600 to 840 Ah.

A range of chargers is available to suit application and main supply requirements.

## Optional equipment

Cab with flexible roll up sides.  
Cab without sides.  
Tractor without cab.  
72 V circuit.  
Rear lights mounted high at rear of cab.  
Flashing or rotating beacon on cab.  
Reverse warning bleeper.  
Contoured solid (superelastic) tyres.  
Towing couplings:

- Automatic single position, front and/or rear.
- Automatic single position, remote, rear.
- Multi-position, front and/or rear.

240 mm rear coupling extension.  
Fabric covered seats.  
Heated seats.  
Full suspension passenger seat.  
Alternative key switch type.  
Alternative colour schemes.  
Other options available on request.

# Electric tow tractor 25.0 t



## Introduction

The four wheel electric tow tractor model P 250 TrActive is available in short and long wheelbase versions and has been developed to suit a wide range of industrial and commercial applications including airport baggage handling and operation in automotive plants.

The main design features result from a thorough analysis of trailer movement requirements to achieve maximum productivity. It has a nominal towing capacity of 25 tonne and an unladen traction speed of 25 km/h.

The overall design concept ensures excellent driver comfort contributing significantly to high work throughput with minimum fatigue.

## Features

- Compact design for optimum manoeuvrability.
- Ergonomically designed driver's compartment for optimum comfort, safety and efficiency.
- Energy saving electronic AC control with regenerative braking for smooth operation and increased productivity.
- High performance AC drive motor for increased work throughput.

## Driver's compartment and controls

A low step facilitates access. The cab is mounted to the chassis on hydraulically damped isolation mounts which reduce vibration and noise. It is available with left or right hand drive steering position, sliding or hinged doors, safety glass, front and rear screen wipers and washers, sun visors, heater, demister, interior panoramic mirror and light. The cab is protected by a metal rear screen mesh. The automotive arrangement of the

pedals, steering wheel and controls, plus full suspension driver's seat, contribute to comfort and operational efficiency. A non-suspension passenger seat is also fitted. A remote inching control panel is located externally to assist with trailer coupling. The single pedal accelerator and direction lever, together with electronic AC control, ensures smooth operation. Comprehensive integrated display includes hour meter, battery discharge indicator, brake/hydraulic fluid level, lighting, indicators, motor temperature and speed.

## Chassis

The chassis has been designed to achieve maximum strength and rigidity, and provides protection for all components, with ease of access for maintenance.

A low centre of gravity ensures safe road holding under all operating conditions.

## Transmission and suspension

A powerful 20 kW AC drive motor integrated with the drive axle transmits power to the rear wheels through reduction gearing. The front wheels have parabolic leaf spring suspension with hydraulic dampers and the rear axle is mounted via trailing links, coil springs and hydraulic dampers.

## Electrical system

The tractor is fitted with an advanced 80V, energy saving electronic AC control system which incorporates regenerative braking and provides smooth acceleration for safe, precise manoeuvring.

A high number of work cycles can be obtained from each battery charge due to the efficiency of this system of energy control. Integrated diagnostics, via a CAN

bus connection, enable rapid servicing and maximum uptime.

## Steering

Energy saving, on demand hydrostatic power steering powered by an AC motor requires minimum steering effort, ensuring excellent manoeuvrability and operational efficiency.

## Towing coupling and platform tray

The tractor is available with a choice of rear towing couplings. The carrying platform incorporates baggage rails and has a capacity of 300 kg. A unique cutaway area with removeable grille provides excellent visibility to the towing coupling from the cab.

## Lighting

The 12V, full road lighting circuit is powered by an isolated DC/DC converter. The two front, recessed dipping headlights are fitted with integral sidelights and separate direction indicators. The rear light clusters incorporate rear lights and reflectors, brake stop lights, direction indicators, reversing light and fog light. Hazard warning lights and a number plate light are also fitted. An external seven pin lighting socket is provided to give 12V power for trailer lights.

## Braking

The tractor has three independent braking systems:

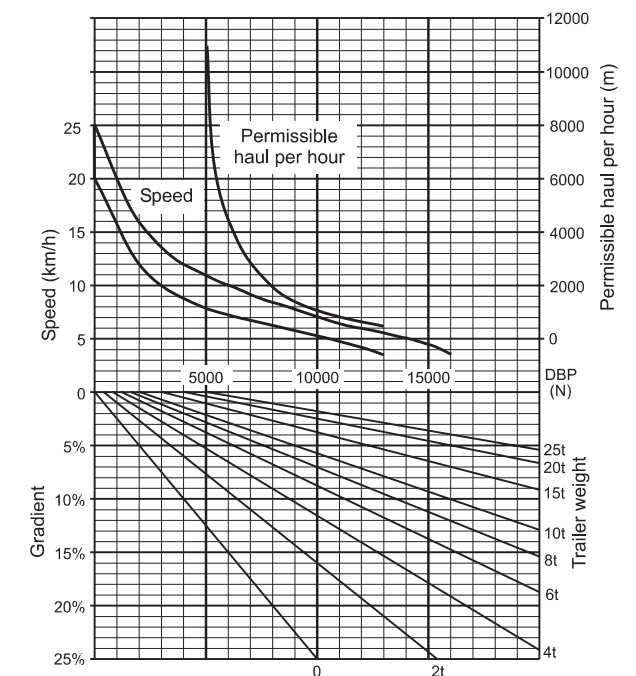
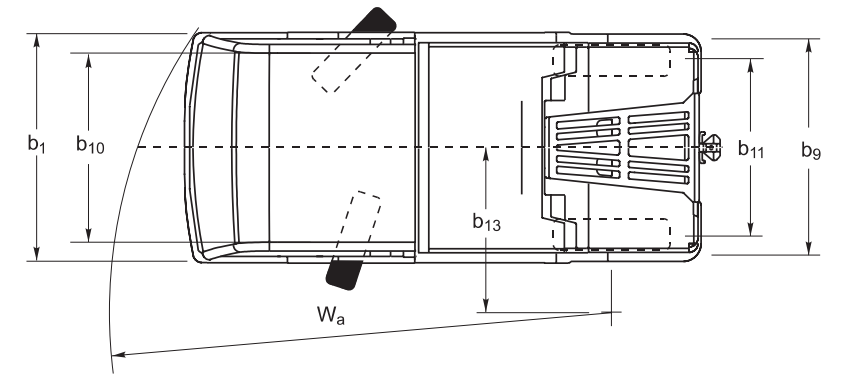
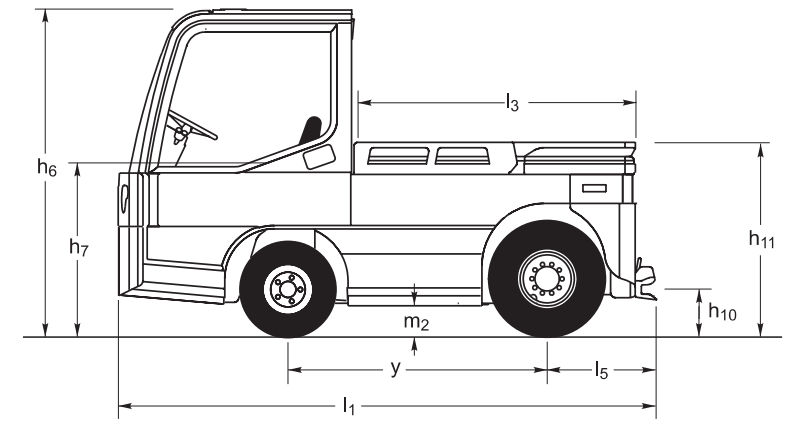
1. Dual circuit hydraulic disc brakes on all four wheels with hydraulic booster.
2. Hand lever operated parking brake mechanically connected to rear wheels.
3. Electrical regenerative braking occurs by progressive release of accelerator pedal.

The manufacturer reserves the right to alter specifications without notice. DM5108A/12/03

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For more information please contact your nearest national network company on **0845 608 5000**



LINDE		Tow tractor Designation		Data sheet for material handling equipment to VDI 3586		EFZ Abbreviation		VDI 2198	
DECEMBER 2003		Manufacturer's data and design characteristics				Model types		Registration note	
Characteristics	1.1	Manufacturer		Linde	Linde				
	1.2	Model designation		<b>P 250 (SWB)</b>	<b>P 250 (LWB)</b>				
	1.3	Power unit: battery, diesel, petrol, LP gas, mains power		Battery	Battery				
	1.4	Operation: manual, pedestrian, stand-on, seated, order picker		Seated	Seated				
	1.5	Towed load capacity	Q (t)	25 <sup>1)</sup>	25 <sup>1)</sup>				
	1.7	Rated drawbar pull	F (N)	5 000 <sup>1)</sup>	5 000 <sup>1)</sup>				
Weights	1.9	Wheelbase	y (mm)	1 465	1 900				
	2.1	Service weight	kg	3 800	4 800				
	2.2	Axle load with load, front/rear	kg	2 000/2 100	2 600/2 500				
Wheels and tyres	2.3	Axle load without load, front/rear	kg	1 900/1 900	2 500/2 300				
	3.1	Tyres, front/rear (SE = CS superelastic, P = pneumatic)		P/P <sup>2)</sup>	P/P <sup>2)</sup>				
	3.2	Tyre size, front		6.00 R 9	6.00 R 9				
	3.3	Tyre size, rear		7.00 R 12	7.00 R 12				
	3.5	Wheels, number front/rear (x = driven)		2/2x	2/2x				
	3.6	Track width, front	b <sub>10</sub> (mm)	1 080	1 080				
	3.7	Track width, rear	b <sub>11</sub> (mm)	1 020	1 020				
Dimensions	4.7	Height of overhead guard (cabin)	h <sub>6</sub> (mm)	1 820	1 820				
	4.8	Height of seat/stand-on platform	h <sub>7</sub> (mm)	745	745				
	4.12	Towing coupling height	h <sub>10</sub> (mm)	240, 295, 350, 405	240, 295, 350, 405				
	4.13	Platform height, without load	h <sub>11</sub> (mm)	1 000	1 000				
	4.16	Loading platform, length	l <sub>3</sub> (mm)	1 520	1 955				
	4.17	Rear overhang	l <sub>5</sub> (mm)	615	615				
	4.18	Loading platform, width	b <sub>9</sub> (mm)	1 170 (1 120 at rear)	1 170 (1 120 at rear)				
	4.19	Overall length	l <sub>1</sub> (mm)	3 045	3 480				
	4.21	Overall width	b <sub>1</sub> (mm)	1 300	1 300				
	4.32	Ground clearance, centre of wheelbase	m <sub>2</sub> (mm)	150	150				
Performance	4.35	Turning radius	W <sub>a</sub> (mm)	2 830	3 280				
	4.36	Minimum pivoting point distance	b <sub>13</sub> (mm)	935	1 095				
	5.1	Travel speed, with/without rated drawbar pull	km/h	11/25	11/25				
	5.5	Drawbar pull at 60 minute rating	N	5 000	5 000				
	5.6	Maximum drawbar pull (on level ground)	N	16 000 <sup>1)</sup>	16 000 <sup>1)</sup>				
	5.7	Climbing ability, with/without load, 30 minute rating	%	See graph	See graph				
Drive	5.8	Maximum climbing ability, with/without load, 5 minute rating	%	See graph	See graph				
	5.10	Service brake		Hydraulic/electric	Hydraulic/electric				
	6.1	Drive motor, 60 minute rating	kW	20	20				
	6.3	Battery according to DIN 43531/35/36 A, B, C, no.		DIN 43536A	DIN 43536A				
	6.4	Battery voltage/rated capacity (5 h)	V/Ah	80/560 <sup>4)</sup>	80/840 <sup>4)</sup>				
	6.5	Battery weight (±5%)	kg	1 558	2 178				
Other	6.6	Power consumption according to VDI cycle	kWh/h	3)	3)				
	8.1	Type of drive control		AC - microprocessor	AC - microprocessor				
	8.4	Noise level at operator's ear	dB (A)	3)	3)				
	8.5	Towing coupling, design/type, DIN/no		3)	3)				
<p>1) Based on level, dry surface with rolling resistance of 200 N/t. Refer to graph opposite for specific operating conditions and when the application involves inclines or ramps.</p> <p>2) Contoured solid (superelastic) tyres are available.</p> <p>3) Refer to manufacturer for figures.</p> <p>4) 72 V circuit is available. Traction speed is reduced by 10%.</p>									



The Speed / drawbar pull performance of the tractor can be programmed between the two limits shown to suit the application.

The permissible haul per hour is the total distance travelled, including the return journey and any downhill gradients

It is recommended that braked trailers are used for trailer loads exceeding 9 tonnes and for all trailer loads if gradients are involved.