



## Electric Tow Tractor Capacity 6000 kg P 60 Z

SERIES 126

### Safety

The specially profiled heavy duty, lower steel chassis provides assured protection for the operator and components and the low centre of gravity ensures exceptional stability. Three independent braking systems deliver effective stopping power for every operational and emergency situation.

### Performance

With a nominal towing capacity of 6.0 tonne and unladen traction speed of 17 km/h the P 60 Z offers flexible high performance which is optimised by the Linde digital control system that provides precise, energy saving control of acceleration and speed for safe operation and high productivity. The compact, profiled chassis ensures excellent manoeuvrability.

### Comfort

A low step facilitates access to spacious operator's compartment where the automotive layout of the pedals, direction lever, steering wheel and controls, together with a fully adjustable comfort-class seat provides a comfortable and fatigue-free working environment. Integral chassis suspension ensures excellent ride characteristics.

### Reliability

The heavy gauge pressed steel lower chassis section is constructed for maximum strength and durability and protects all key components. Robust top chassis section comprises exceptionally strong double-skinned, impact resistant polyethylene mouldings. The rugged drive axle and differential are designed for operation in tough and demanding applications.

### Productivity

The powerful 3.2 kW drive motor provides impressive pulling power for a variety of intensive applications including the automotive industry, and airports. The energy saving Linde digital controller combined with compact manoeuvrability and an excellent interface between the operator and tractor, translates that power into versatile, seamless performance and high productivity.

Linde Material Handling

*Linde*

# Technical data (according to VDI 2198)

			LINDE			
			P 60Z (48V)	P 60Z (24V)		
Characteristics	1.1	Manufacturer				
	1.2	Model designation				
	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	Load capacity	Q (t)	6.0 <sup>1)</sup>	6.0 <sup>1)</sup>	
	1.7	Rated drawbar pull	F (N)	1200 <sup>1)</sup>	1200 <sup>1)</sup>	
	1.9	Wheelbase	y (mm)	1040	1040	
Weight	2.1	Service weight	kg	1070	1020	
	2.2	Axle load without load, front/rear	kg	470/600	420/600	
Wheels and tyres	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		4.00-8/6 PR	4.00-8/6 PR	
	3.3	Tyre size, rear		4.00-8/6 PR	4.00-8/6 PR	
	3.5	Wheels, number front/rear (x = driven)		1/2x	1/2x	
	3.6	Track width, front	b10 (mm)	0	0	
	3.7	Track width, rear	b11 (mm)	860	860	
	4.7	Height of overhead guard (cabin)	h6 (mm)	1960	1960	
	4.8	Height of seat/stand-on platform	h7 (mm)	890	890	
	4.12	Towing coupling height	h10 (mm)	a) 290 b) 345 c) 400	a) 290 b) 345 c) 400	
	4.13	Platform height, without load	h11 (mm)	610	610	
Dimensions	4.16	Loading platform, length	l3 (mm)	440	440	
	4.17	Rear overhang	l5 (mm)	345	345	
	4.18	Loading platform, width	b9 (mm)	830	830	
	4.19	Overall length	l1 (mm)	1730	1730	
	4.21	Overall width	b1 (mm)	996	996	
	4.32	Ground clearance, centre of wheelbase	m2 (mm)	115	115	
	4.35	Turning radius	Wa (mm)	1650	1650	
	4.36	Minimum pivoting point distance	b13 (mm)	600	600	
	Performance	5.1	Travel speed, without load	km/h	7/17	7/17
		5.5	Tractive force, without load, 60 minute rating	N	1200	1200
5.6		Maximum tractive force, without load, 5 minute rating	N	4500	4500	
5.7		Climbing ability with/without load, 30 minute rating	%	See graph	See graph	
5.8		Maximum climbing ability with/without load, 5 minute rating	%	See graph	See graph	
5.10		Service brake		Hydraulic/electric	Hydraulic/electric	
Drive	6.1	Drive motor, 60 minute rating	kW	3.2	3.2	
	6.3	Battery according to Euro norm		IEC 254-2	IEC 254-2	
	6.4	Battery voltage/rated capacity (5h)	V/Ah	48/330	24/550	
	6.5	Battery weight (± 0,5 %)	kg	540	445	
	6.6	Power consumption according to VDI cycle	kWh/h	<sup>3)</sup>	<sup>3)</sup>	
	Other	8.1	Type of drive control		Electronic/stepless	Electronic/stepless
8.4		Noise level at operator's ear	dB (A)	66	66	
8.5		Tow coupling, design/type, DIN		No	No	

<sup>1)</sup> 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.

<sup>2)</sup> Contoured solid (superelastic) tyres are available.

<sup>3)</sup> Refer to manufacturer for figures.

# Equipment

## Standard equipment

### General

Three wheel configuration  
Excellent stability  
48 V circuit with 12 V lighting via DC/DC converter  
Single pedal accelerator and direction lever  
Fully adjustable, PVC covered seat  
Pneumatic tyres  
3,2 kW drive motor  
Multi-position rear towing coupling  
Full road lighting  
Standard colour scheme - vermillion and charcoal grey

### Electronics

Microprocessor based, digital, high frequency control  
Combined instrument indicating parking brake applied/low brake fluid level, driver alert, brush wear warning, motor temperature warning, battery discharge and elapsed time (hour meter)

### Batteries and chargers

48 V, 200 or 220 Ah  
48 V, 300 or 330 Ah to IEC  
24 V, 500 or 550 Ah to IEC  
Easy vertical lift out battery change  
A range of chargers is available to suit application and mains supply requirements selected

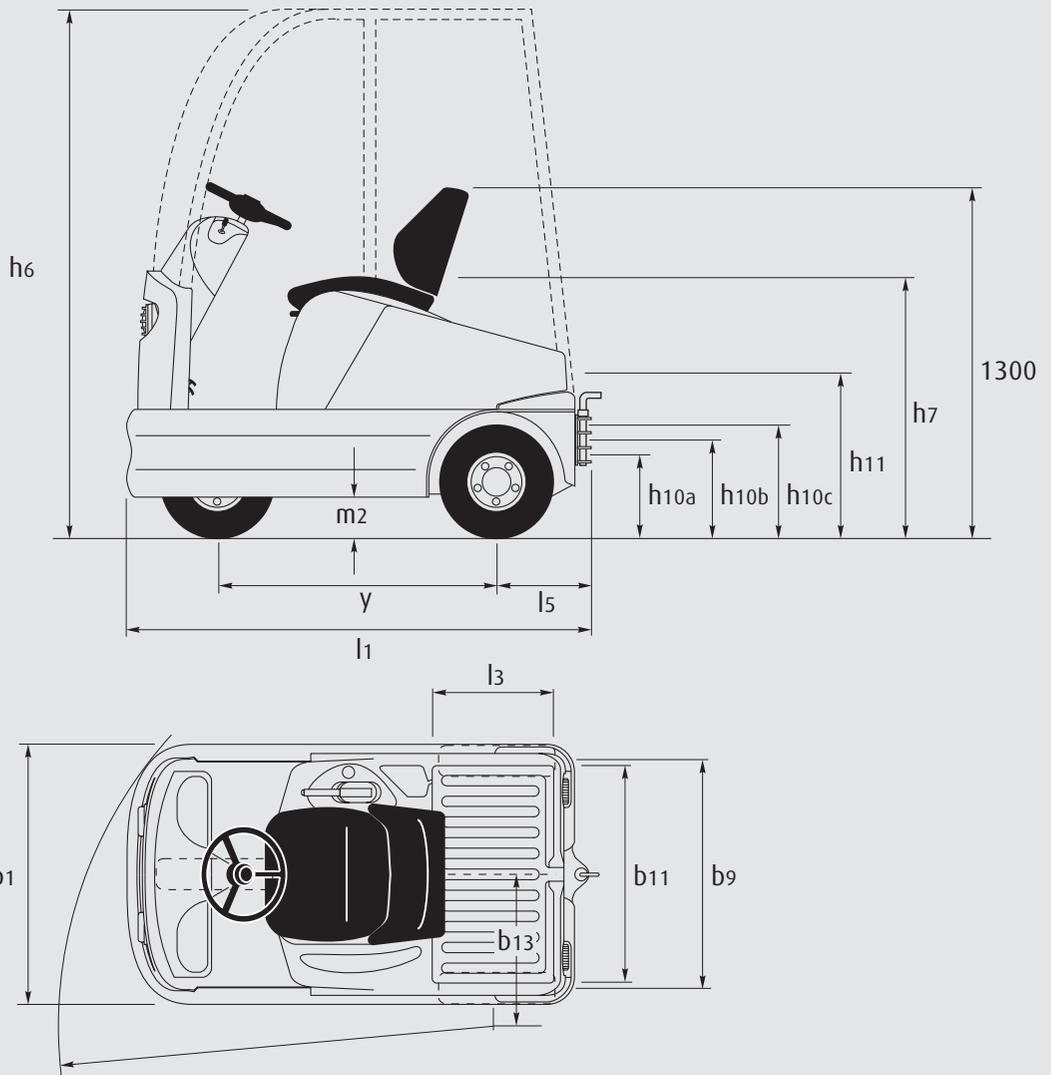
### Safety

Three independent braking systems  
Hydraulic drum brakes on all three wheels  
Parking brake actuating on rear wheels  
Regenerative electric braking as accelerator pedal released or opposite travel direction  
Emergency circuit isolator  
Keyswitch  
Fail-to-safe-circuitry  
Traction isolated by seatswitch and handbrake  
Handbrake delay interlock allows gradient start without roll back  
Electric horn  
Electrical overload protection

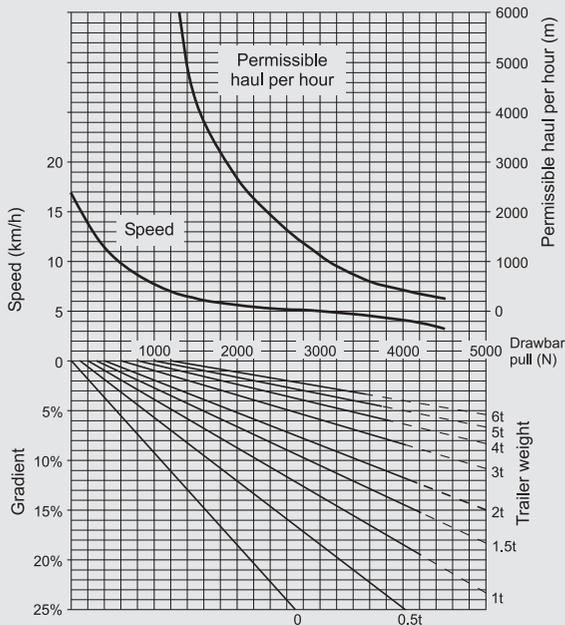
## Optional equipment

24 V circuit  
Maximum travel speed inhibitor  
Full cab with two lift-off side glass doors and rear hatch, front and rear screen wipers, front screen washer and demister, interior light and mirror, and two exterior mirrors  
Cab with roll-up fabric sides and lower rear panel including glass front and rear screens, front and rear wipers, interior light and mirror, and two exterior mirrors  
Canopy with front screen, wiper and washer  
Contoured solid (superelastic) tyres - normal or non-marking  
Fabric covered seat - with or without heating

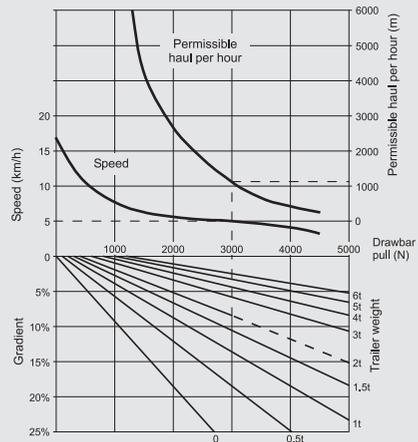
Seat backrest extension  
Multi-position towing coupling - rear or / and front  
Automatic towing couplings (to DIN 15170-E2):  
- One rear  
- One front  
- One rear with extension  
- Two rear with extension  
Remote inching control  
Flashing beacon on top of cab or on pole  
Audible warning on reverse travel  
Front collision detection



### Performance Chart



### Example of application



The example shown above illustrates a tractor towing a.....2 tonne load operating on a slope of .....8% maximum travelling speed obtainable .....5 km/h permissible length of run per hour .....1200 m (Where the 8% slope is 60 m long, the complete cycle, including the return journey, can be performed 10 times per hour).

Load/gradient combinations shown by full line can be restarted from stationary on the gradient. 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 2.5 tonne and for all trailer loads where a gradient is involved.



# Features

## Chassis

- Integral full chassis suspension
- Exceptionally strong steel lower chassis
- High impact resistant polyethylene top section
- Tilting top section for easy maintenance and battery access



## Operator's compartment

- Low step access and exit
- Spacious leg room
- Fully adjustable comfort-class seat
- Ergonomic automotive pedal and control layout
- Excellent all-round visibility

## Steering

- Light and responsive steering
- Minimum steering effort
- Large lock-to-lock angle
- Excellent manoeuvrability

## Braking

- Three independent braking systems
- Hydraulic drum brakes on all three wheels
- Parking brake actuating on rear wheels
- Regenerative electric braking as accelerator pedal released or opposite travel direction selected
- Superb regenerative braking control on gradients

## Tow coupling

- Multi-position rear towing coupling as standard
- Optional automatic couplings
- Front and rear mounting options



## Controller

- Precise control of speed and acceleration
- Highly efficient energy saving system
- Increased number of work cycles from battery
- Programmable performance parameters
- Higher productivity ratios
- Powerful 3.2 kW drive motor transversely mounted on drive axle

## Batteries & chargers

- 48 V, up to 330 Ah
- 24 V, up to 550 Ah
- Easy vertical lift out battery change
- Range of chargers to suit application

## Serviceability

- Tilting seat mounting cover
- Easy access for maintenance and battery
- Multi-function instrument display assists scheduled maintenance planning
- Low maintenance design for maximum uptime

