Electric Double-Deck Pallet Stackers 1200 and 2000 kg

Linde electric pallet stackers of the L12L model range are designed with the capability of transporting two pallet loads at once, one raised on the forks, the second supported on the load legs. This enables freight trucks and semitrailers to be loaded in the shortest time making better use of the available loading space. At other times, the stackers can handle general warehouse load transport and stacking operations.

Main features

- Excellent stability resulting from five-wheel configuration and spring-loaded drive unit
- Chassis width 725 mm, enabling the full inside width of freight truck bodies to be utilized for handling 800 x 1200 mm Euro pallets
- Double-deck carrying of two pallet loads on forks and initial-lift load legs
- Linde Digital Control (LDC), microprocessor traction controller programmable for optimal matching to application parameters
- Linde Brake Control (LBC), automatic braking initiated electronically on releasing butterfly drive switch
- Ergonomically optimized Linde control tiller
- Pedestrian version (L12L) or stand-on version (L12LP) with four platform options

Control tiller

Tiller head designed as safety guard fully enclosing the operator's hands. All controls integrated in the tiller head and made of durable special plastic pleasant to the touch. They respond instantly to light pressure, allowing fingertip control of truck operation by either hand without having to let go of the handgrips. Steering requires little physical effort.

Drive

Traction power is delivered by the motor (1.5 kW for L12L, 2 kW for L12LP) to the centrally positioned steered drive wheel through two-stage gearing. Power is controlled by the electronic LDC system, equipped with programmable microprocessor and high-frequency MOSFETs. Drive is infinitely variable, providing high travel speed and forceful acceleration on level ground or up gradients (with no risk of rollback), booster effect giving temporarily increased power output. Controlled electronic braking sets in automatically on returning the drive switch to neutral position.

Lift unit

The hydraulic system consists of a motor rated at 2.2 kW and designed for low energy consumption, high-pressure gear pump and hydraulic oil tank fitted with microfilter and relief valve. Two pallet loads can be transported simultaneously due to initial lift of the load legs in addition to the forks running in the mast. Maximum allowable load capacity is 2000 kg. This can be split into 1200 kg on the forks and 800 kg on the load legs in double-deck operation or combined into a single load of 2000 kg picked up solely by initial lift.

Mast

Pallet stackers of the L12L model range can be had with low-height standard or duplex clear-view masts. They are thus able to operate inside road trucks and trailers or other low headroom spaces.

Brakes

The trucks have two independent brake systems:

- Electronic service brake automatically applied when either butterfly drive switch is eased back to slow down or released for stopping
- Electromagnetic safety and parking brake applied automatically when the tiller is set to either end position (upright or horizontal)

An auto-safety switch integrated in the tiller head prevents the operator from being squeezed against obstacles when working in confined spaces. It actuates the electromagnetic brake immediately on contact and disconnects all electrical circuits.

LINDE

April 2002

Electric Double-Deck Pallet Stackers

Designation to VDI 3586

Data Sheet for Industrial Trucks

Characteristics	1.1	Manufacturer		Linde	Linde	Linde	
	1.2	Model designation		**L 12 L**	**L 12 LP 01**	**L 12 LP 02**	
	1.3	Power unit: Battery, diesel, gasoline, LP gas, AC		Battery	Battery	Battery	
	1.4	Operation: Hand, pedestrian, stand-on, sit-down, order picker		Pedestrian	Pedestrian	Stand-on	
	1.5	Load capacity	Q (kg)	1200/2000 2)	1200/2000 2)	1200/2000 2)	
	1.6	Load center	c (mm)	600	600	600	
	1.8	Load distance	x (mm)	970	970	970	
	1.9	Wheelbase	y (mm)	1573	1573	1573	
Weights	2.1	Service weight	kg	1090	1140	1140	
	2.2	Axle load with load, front / rear	kg	1290/1800	1310/1830	1310/1830	
	2.3	Axle load without load, front / rear	kg	800/290	840/300	840/300	
Wheels and tyres	3.1	Tyres: Solid rubber (R), Superelastic (SE), pneumatic (P), polyurethane (PU)		R+PU/PU	R+PU/PU	R+PU/PU	
	3.2	Tyre size, front		ø 254 x 102	ø 254 x 102	ø 254 x 102	
	3.3	Tyre size, rear		ø 85 x 85 (ø 85 x 60) 1)	ø 85 x 85 (ø 85 x 60) 1)	ø 85 x 85 (ø 85 x 60) 1)	
	3.4	Additional wheels (dimensions)		ø 125 x 60	ø 125 x 60	ø 125 x 60	
	3.5	Wheels, number front / rear (x = driven)		1x+2/2 (1x+2/4) 1)	1x+2/2 (1x+2/4) 1)	1x+2/2 (1x+2/4) 1)	
	3.6	Track width, front	b_{10} mm	480	480	480	
	3.7	Track width, rear	b_{11} mm	380	380	380	
Dimensions	4.2	Height, mast retracted	h_1 (mm)	1315 3)	1315 3)	1315 3)	
	4.3	Free lift	h_2 (mm)	150 3)	150 3)	150 3)	
	4.4	Lift	h_3 (mm)	1724 3)	1724 3)	1724 3)	
	4.5	Height, mast extended	h_4 (mm)	2210 3)	2210 3)	2210 3)	
	4.6	Initial lift	h_5 (mm)	125	125	125	
	4.9	Tiller height, travel position, min/max	h_{14} (mm)	980/1400	980/1400	980/1400	
	4.15	Lowered fork height	h_{13} (mm)	90	90	90	
	4.19	Overall length	l_1 (mm)	1946	2020/2410	2430	
	4.20	Head length	l_2 (mm)	796	880/1270	1280	
	4.21	Overall width	b_1/b_2 (mm)	725	725	725	
	4.22	Fork dimensions	s/e/l (mm)	55/180/1150	55/180/1150	55/180/1150	
	4.23	Load legs	s/e/l (mm)	60/125/1150	60/125/1150	60/125/1150	
	4.24	Fork carriage width	b_3 (mm)	705	705	705	
	4.25	Fork spread	b_5 (mm)	560	560	560	
	4.32	Ground clearance, center of wheelbase	m_2 (mm)	22	22	22	
	4.34	Aisle width, 800 x 1200 lengthwise	Ast (mm)	2460	2490/2910	2760	
	4.35	Turning radius	Wa (mm)	1795	1830/2255	2105	
Performance	5.1	Travel speed, with / without load	(km/h)	5.0/6.0	7.0/8.5	7.0/8.5	
	5.2	Lift speed, with / without load	(m/s)	0.10/0.20	0.10/0.20	0.10/0.20	
	5.3	Lower speed, with / without load	(m/s)	0.30/0.25	0.30/0.25	0.30/0.25	
	5.7	Gradeability, with / without load	%	3/13	5/15	5/15	
	5.8	Maximum gradeability, with / without load	%	9/20	10/20	10/20	
	5.10	Service brake		Electromagnetic	Electromagnetic	Electromagnetic	
Drive	6.1	Traction motor, 60 min rating	kW	1.5	2.0	2.0	
	6.2	Lift motor, 15% on time	kW	2.2	2.2	2.2	
	6.3	Battery to IEC		254-2	254-2	254-2	
	6.4	Battery voltage, nominal capacity 5 h rating	V/Ah	24/220 L	24/220 L	24/220 L	
	6.5	Battery weight	kg	208	208	208	
	6.6	Energy consumption, VDI Cycle	kWh/h	–	–	–	
Other	8.1	Traction controller		LDC with microprocessor	LDC with microprocessor	LDC with microprocessor	
	8.4	Noise level at control position	dB(A)	70	70	70	

Figures stated for standard equipment may vary when fitting options.

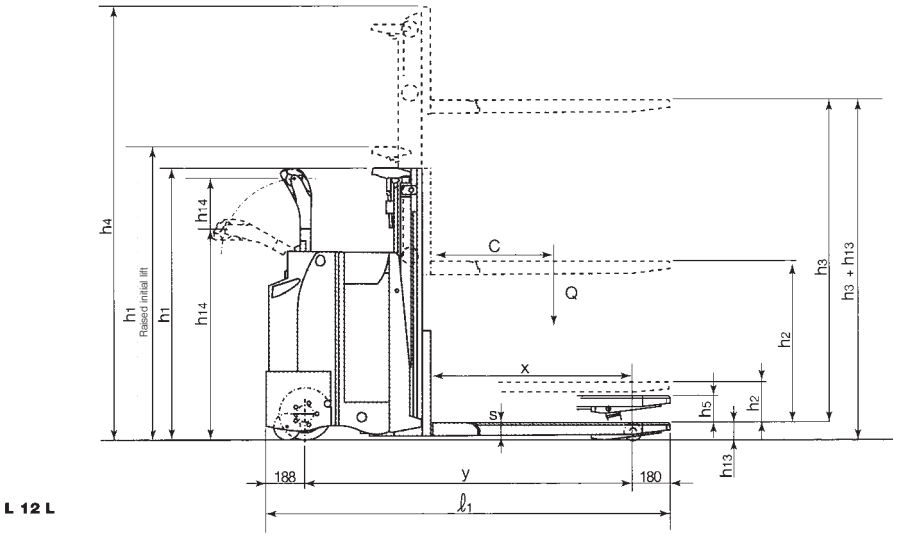
1) Figures in parentheses for tandem load wheels.

2) Distributed load, e. g. 1000 kg on forks, 1000 kg on load legs, max. load 2000 kg.

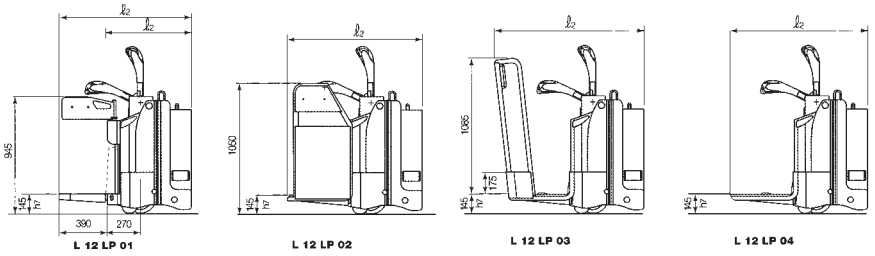
3) Other standard and duplex masts on request.

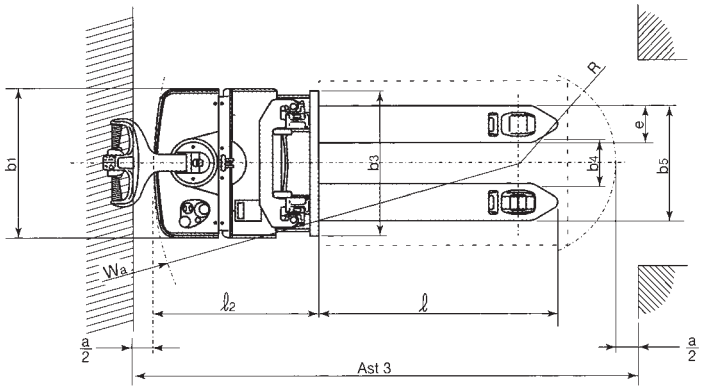
Load capacity 2000 kg when supported solely by load leg initial lift.

	EGV Symbol to VDI 3586	VDI 2198
	Linde	Linde
	L 12 LP 03	**L 12 LP 04**
	Battery	Battery
	Stand-on	Pedestrian
	1200/2000 2)	1200/2000 2)
	600	600
	970	970
	1573	1573
	1140	1140
	1310/1830	1310/1830
	840/300	840/300
	R+PU/PU	R+PU/PU
	ø 254 x 102	ø 254 x 102
	ø 85 x 85 (ø 85 x 60) 1)	ø 85 x 85 (ø 85 x 60) 1)
	ø 125 x 60	ø 125 x 60
	1x+2/2 (1x+2/4) 1)	1x+2/2 (1x+2/4) 1)
	480	480
	380	380
	1315 3)	1315 3)
	150 3)	150 3)
	1724 3)	1724 3)
	2210 3)	2210 3)
	125	125
	980/1400	980/1400
	90	90
	2550	2020/2410
	2550/400	880/1270
	725	725
	55/180/1150	55/180/1150
	60/125/1150	60/125/1150
	705	705
	560	560
	22	22
	2880	2490/2910
	2220	1830/2255
	7.0/8.5	5.0/6.0
	0.10/0.20	0.10/0.20
	0.30/0.25	0.30/0.25
	5/15	3/13
	10/20	9/20
	Electromagnetic	Electromagnetic
	2.0	2.0
	2.2	2.2
	254-2	254-2
	24/220 L	24/220 L
	208	208
	–	–
	LDC with microprocessor	LDC with microprocessor
	70	70

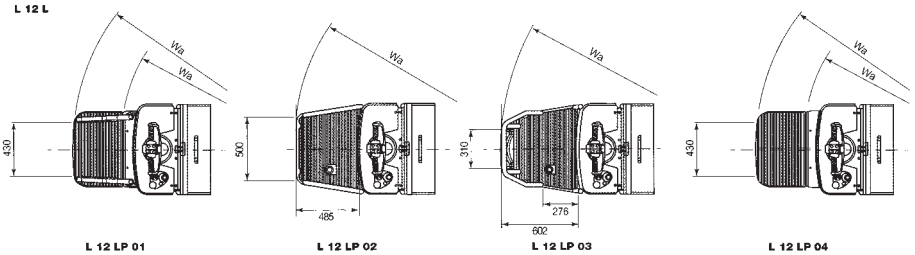


L 12 L





L 12 L



Safety clearance a = 200 mm

Ast = Wa + r + a

Equipment

End control platform version L12 LP
Four rider stand platform options are available:

- Version 01:
  Hinged platform folds down as rider stand for transport and loading operations, folds up for pedestrian control mode where maximum maneuverability is required
- Version 02:
  Fixed rear-access platform with side bars left and right
- Version 03:
  Fixed side-access platform with fixed backrest
- Version 04:
  Folding platform without side bars

Safety

- Two independent braking systems
- Auto-safety switch on tiller head
- All wheels contained within truck contours: Optimum protection from foot injury
- Hands fully protected by safety guard on tiller handle and plexiglas screen between operator position and mast

Batteries and chargers

- 24 V batteries, 220 to 330 Ah
- Matching chargers available for all sizes of battery

Standard equipment

- All safety equipment listed above
- LDC programmable electronic traction controller
- LBC automatic electronic service brake
- Combined hour meter and battery discharge indicator
- Rubber-tyred drive wheel
- Polyurethane-tyred caster wheels
- Single polyurethane-tyred load wheels with string guard
- Fork length 1150 mm, width across forks 560 mm
- Cold environment compatibility to –10 °C
- Battery cable and plug
- Operator manual, spare parts catalogue

Options

- Selection of standard and duplex masts
- Load backrest
- Cold store version to –30 °C
- Greasable lift system
- Polyurethane or grooved rubber drive wheel tyre or non-marking tyre
- Tandem polyurethane load wheels
- Battery change stand
- Battery change trolley
- Four end control platform options

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