Standard Equipment/Optional Equipment

Standard Equipment

New standard features
Wide product range: P 60+P 80 tractors, W 08 load transporter
Superb ergonomics and spacious drivers compartment
Power setting Efficiency
Two stage travel speed selection
Generous storage compartments
Auxiliary power supply socket (12 V) in dashboard
Key switch, or alternatively PIN Code access
Resilient cushioning and swinging arm suspension on all three wheels

General
Three wheel configuration for optimum manoeuvrability
Excellent stability
Side battery exchange, 48V circuit
Single pedal accelerator and direction lever
Adjustable PVC covered seat
Pneumatic tyres
4,5 kW sealed AC drive motor
Rear multi-position towing coupling
Standard colour scheme – vermillion and charcoal grey

Electronics
Linde high frequency AC traction controller is sealed against the ingress of dust and water
Sealed and reverse polarity protected connectors ensure excellent vibration proof contact
Digital interactive display indicating battery discharge status, working hours, travel speed (km/h), Power setting adjustment, driving direction, indicators, and further information for optional equipment

Safety
Linde Curve Assist
Four independent braking systems:
- Regenerative electric braking as accelerator released
- Automatic electro-magnetic parking brake
- Gradient hold control & start assist without roll-back
- Self adjusting hydraulic drum brakes on all three wheels

Constant speed on gradients
Emergency circuit isolator
Duplicated fail-to-safe-circuitry
Electric horn

Optional Equipment

Lighting systems (bulb or LED)
Deluxe seat with mechanical suspension
Deluxe Super Comfort with air suspension and heating
Dead man footswitch
Variable energy saving/performance parameter modes (Economy, Efficiency, Performance) for individual applications
Various towing couplings for the rear and front (incl. extension and electrical remote)
Metal front protection shield
Load backrest (load transporter)
Rail for tractor platform
Eyelets for load fixation (optional for tractor, standard for load transporter)
Individual travel speed reduction
Audible warning in reverse
Inching control (forward & backwards) on both sides at the rear chassis
Pedestrian traction buttons (forward traction only) on both sides of the chassis for order picking applications

Front tubular mounting for optional equipment such as mirrors, pad holder, data terminals etc. (only without cabin)
Vertical pole at the rear for optional equipment such as beacon, bin etc.
Several modular cabin versions (sun protection, roof+screens, plus flexi doors, plus full metal doors, plus cabin heating)

Batteries and chargers
48V DIN batteries up to 375 Ah capacity
Efficient and safe side changing design
Various optional changing methods including battery on rollers
Battery roll-off adapter, for use with pallet truck
Range of chargers to suit the battery and application
Opportunity charging*
On-board charger*

*Availability to be advised

Tractor P 60 + P 80
Capacity 6000 kg + 8000 kg
Load transporter W 08
Capacity 800 kg

Series 1191

Linde Material Handling

Safety
Heavy-duty steel chassis and rugged upper structure with rounded profiles protects driver. Four independent braking systems provide effective braking in all situations. Emergency isolator. Electric horn. Duplicated fail-to-safe electronic circuits and excellent all-round visibility. Automatic, electro-magnetic parking brake.

Performance
A powerful 4.5 kW sealed AC drive motor for impressive pulling power and up to 20 km/h unladen speed. Latest energy efficient Linde electronic control delivers seamless travelling and manoeuvrability.

Comfort
Easy access and exit is ensured with ergonomic, non-slip steps and wide access openings on either side with smoothly curved profiles. The spacious angled foot well and generous legroom, adjustable seat, intuitive automotive control levers, adjustable steering wheel and ergonomic pedal layout provide an optimum working environment for every individual operator. Resilient mountings and swinging arm suspension on all three wheels.

Reliability
A rugged, profiled steel chassis and impact resistant upper structures for maximum structural integrity and durability. Industrial standard mechanical and electrical components together with a heavy-duty drive axle and differential deliver continuous, reliable performance.

Productivity
These outstanding ergonomic and performance design features result in a unique, intuitive interface between the driver and the tractor, to deliver consistently high efficiency and productivity ratios in a wide range of material handling applications. A wide range on individual options is available.

Features

Chassis
- Heavy duty, profiled chassis
- Rugged, impact resistant top section
- Steel cased carrying platform
- Ergonomic rounded profile design
- Resilient cushioning and swinging arm suspension system front & rear

Steering
- Precise responsive steering
- Large lock to lock angle
- Unique adjustable steering column to suit every size of driver
- Precision travelling and manoeuvring

Braking
- Four independent braking systems:
- Regenerative electric braking
- Self-adjusting hydraulic drum brakes on all wheels
- Automatic electromagnetic parking brake
- Automatic gradient assist start (No roll-back)

Operator´s compartment
- Superbly spacious and ergonomic drivers compartment
- Non-slip step and wide access on both sides
- Spacious foot well and leg room
- Ergonomic, automotive pedal layout
- Automotive style intuitive control levers
- Adjustable seat

Towing couplings
- Rear multi-position towing coupling as standard
- Optional types of front and rear towing couplings
- Optional automatic couplings

Controller
- Exceptionally energy efficient Linde digital controller
- Smooth, precision control of travel and manoeuvring
- Programmable performance parameters
- Delivers optimum versatility and efficiency to the 4.5 kW sealed AC drive motor

Batteries and chargers
- 48V DIN batteries up to 375 Ah capacity
- Efficient and safe side changing design
- Various optional changing methods including battery on rollers
- Range of chargers to suit the battery and application

Serviceability
- Easy service access to all key components
- Extended operational uptime between scheduled services
- Low maintenance design
- Digital display assists charging and maintenance planning
- Diagnostic computer port (CAN bus system)

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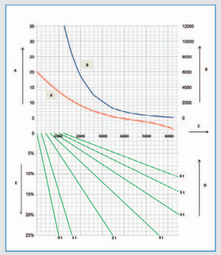
Technical Data according to VDI 2198

Characteristics	1.1	Manufacturer		LINDE	LINDE	LINDE
	1.2	Model designation		**P60**	**P80**	**W08**
	1.2a	Series		1191-00	1191-00	1191-00
	1.3	Power unit		Battery	Battery	Battery
	1.4	Operation		Seat	Seat	Seat
	1.5	Load capacity/Load	Q (t)	0.15 / 6.0 [1) 2)]	0.15 / 8.0 [1) 2)]	0.8 / 7.0 [1)]
	1.7	Rated tractive force	F (N)	1200	1600	1400
	1.9	Wheelbase	y (mm)	1190 [4)]	1190 [4)]	1795 [4)]
Weights	2.1	Service weight	(kg)	1260 (1515) [3) 6)]	1280 (1535) [3) 6)]	1230 (1485) [3) 6)]
	2.2	Axle load with load, front/rear	(kg)	550/860 (662/1003) [3) 6)]	560/870 (672/1013) [3) 6)]	585/1445 (745/1540) [3) 6)]
	2.3	Axle load without load, front/rear	(kg)	550 / 710 (662 / 853) [3) 6)]	560 / 720 (672 / 863) [3) 6)]	590 / 640 (750 / 735) [3) 6)]
Wheels/Tyres	3.1	Tyres rubber, SE, pneumatic, polyurethane		Pneumatic	Pneumatic	SE
	3.2	Tyre size, front		4.00-8 / 6PR	4.00-8 / 6PR	125/75-8
	3.3	Tyre size, rear		4.00-8 / 6PR	4.00-8 / 6PR	125/75-8
	3.5	Wheels, number front/rear (x = driven)		1 / 2x	1 / 2x	1 / 2x
	3.6	Track width, front	b10 (mm)	0 [4)]	0 [4)]	0 [4)]
	3.7	Track width, rear	b11 (mm)	860 [4)]	860 [4)]	860 [4)]
Dimensions	4.7	Height of overhead guard (cabin)	h6 (mm)	1915 / (2070) [4)]	1915 / (2070) [4)]	1915 / (2070) [4)]
	4.8	Height of seat/stand on platform	h7 (mm)	1020	1020	1055
	4.12	Towing coupling height	h10 (mm)	285, 340, 395 [4)]	285, 340, 395 [4)]	285, 340, 395 [4)]
	4.13	Platform height, unladen	h11 (mm)	645	645	680
	4.16	Loading platform, length	l3 (mm)	520 (cab 265)	520 (cab 265)	1415 (cab 1275)
	4.17	Rear overhang	l5 (mm)	350	350	840
	4.18	Loading platform, width	b9 (mm)	900 [4)]	900 [4)]	900 [4)]
	4.19	Overall length	l1 (mm)	1830 [4)]	1830 [4)]	2955 [4)]
	4.21	Overall width	b1/b2 (mm)	996 [4)]	996 [4)]	996 [4)]
	4.32	Ground clearance, centre of wheelbase	m2 (mm)	135 [7)]	135 [7)]	135 [7)]
	4.35	Turning radius	Wa (mm)	1650 [8)]	1650 [8)]	2230 [8)]
	4.36	Minimum pivoting point distance	b13 (mm)	600	600	600
Performance	5.1	Travel speed, with/without load	(km/h)	12 / 20	10 / 20	12 / 20
	5.5	Tractive force, with/without load	(N)	1200	1600	1240
	5.6	Maximum tractive force, with/without load	(N)	6500	6500	6500
	5.7	Climbing ability, with/without load	(%)	see performance graph	see performance graph	see performance graph
	5.8	Maximum climbing ability, with/without load	(%)	see performance graph	see performance graph	see performance graph
	5.10	Service brake		Electric/hydraulic	Electric/hydraulic	Electric/hydraulic
Drive	6.1	Drive motor, 60 minute rating	(kW)	4.5 (AC)	4.5 (AC)	4.5 (AC)
	6.3	Battery according to DIN 43531/35/36 A,B,C,no		43 531 / A	43 531 / A	43 531 / A
	6.4	Battery voltage/rated capacity (5h)	(V/Ah)	48 / 375	48 / 375	48 / 240 [9)]
	6.5	Battery weight (± 5%)	(kg)	560	560	394
	6.6	Power consumption according to VDI cycle	(kWh/h)	3.84 (cycl. 2012)	4.27 (cycl. 2012)	5.26 (cycl. 2012)
Others	8.1	Type of drive control		Electronic/stepless	Electronic/stepless	Electronic/stepless
	8.4	Noise level at operator's ear	(dB(A))	60	60	60
	8.5	Towing coupling, design/type, DIN 15 170		see option list	see option list	see option list

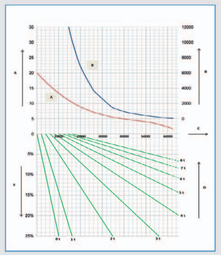
1) Based on level, dry surface with rolling resistance of 200N/t. Refer to graph for specific operating conditions and when the application involves inclines or ramps.
2) Load capacity (carrying on platform) 150 kg
3) Load capacity (carrying on platform) 800 kg
4) (± 5 mm)
5) (± 10 kg)
6) Values in parenthesis with cabin
7) (± 2 mm)
8) (± 20 mm)
9) With 48/375 Ah reduced travel speed

Performance charts

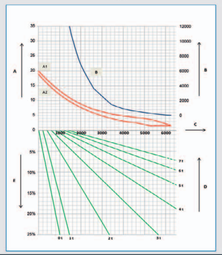
P60



P80



W08



A	Speed (km/h)
A1	Travel speed w/o load on platform
A2	Travel speed with 800 kg load on platform
B	Permissible haul per hour (m)
C	Drawbar pull (N)
D	Combined weight: trailer + load (t)
E	Gradient (%)

Information

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.