



ELECTRIC REACH TRUCKS FOR POTENTIALLY EXPLOSIVE ATMOSPHERES

R14-R20 HD EX | R20-R25 EX

CAPACITY 1400 - 2500 KG | SERIES 1120

Safety

With four independent braking systems, fail-to-safe dual circuitry and an impressive range of operator protection features, a safe and efficient working environment is assured.

Performance

Powerful AC traction and lift motors combined with the renowned Linde intelligent controller deliver seamless, energy efficient performance for optimum productivity. Fixed clear view triplex masts with integrated sideshift as standard ensure smooth, highly efficient storage and retrieval cycles.

Comfort

A world first sees the operator's work station resiliently mounted to the base chassis isolating the operator from shocks and vibrations. An ergonomic, fully adjustable seat and integral control console housing the fingertip joystick hydraulic levers together with a compact steering wheel gives unsurpassed levels of operator comfort. The unique Linde rheological electric steering system enables

effortless operation and assured manoeuvring and travelling. In this superb, stress-free working environment, the operator is motivated and can fully focus on the task.

Reliability

Durability and reliability are key elements in delivering cost effective supply chain solutions. Linde reach trucks benefit from the experience of over 60 years working in heavy industrial and commercial applications. All key components are designed and manufactured in-house to achieve these objectives. High residual capacities also result from this knowledge.

Productivity

The unique performance of the Linde reach truck combines maximum productivity with intuitive interaction between the operator and the forklift truck. This ensures the highest level of economic efficiency and minimum costs per pallet movement. With Linde DMC you can perfect the load handling.

TECHNICAL DATA

ACCORDING TO VDI 2198

Characteristics	1.1	Manufacturer	LINDE	LINDE	LINDE	
	1.2	Manufacturer's type designation	R14 HD EX (3GD)	R16 HD EX (3GD)	R20 EX (3GD)	
	1.2a	Series	1120-25	1120-25	1120-25	
	1.3	Power unit	Battery	Battery	Battery	
	1.4	Operation	Seat	Seat	Seat	
	1.5	Load capacity / Load	Q [t]	1.4	1.6	2.0
	1.6	Load centre distance	c [mm]	600/500	600/500	600/500
	1.8	Axle centre to fork face	x [mm]	275	347	347
	1.9	Wheelbase	y [mm]	1381	1453	1525
Weight	2.1	Service weight	[kg]	3775 ^{1) 9)}	3995 ^{1) 9)}	4420 ^{1) 9)}
	2.3	Axle load without load, front/rear	[kg]	2116/1659 ⁹⁾	2356/1639 ⁹⁾	2566/1854 ⁹⁾
	2.4	Axle load, fork outreached, with load, front/rear	[kg]	836/4339 ⁹⁾	841/4754 ⁹⁾	721/5699 ⁹⁾
	2.5	Axle load, fork retracted, with load, front/rear	[kg]	1787/3388 ⁹⁾	2077/3518 ⁹⁾	2234/4186 ⁹⁾
Wheels, Tyres	3.1	Tyres rubber, SE, pneumatic, polyurethane	Polyurethane	Polyurethane	Polyurethane	
	3.2	Tyre size, front	ø360 x 130 antistatic	ø360 x 130 antistatic	ø360 x 140 antistatic	
	3.3	Tyre size, rear	ø285 x 100 antistatic	ø285 x 100 antistatic	ø350 x 100 antistatic	
	3.5	Wheels, number front/rear (x = driven)		1x/2	1x/2	1x/2
	3.6	Track width, front	b ₁₀ [mm]	0	0	0
	3.7	Track width, rear	b ₁₁ [mm]	1167	1167	1167
Dimensions	4.1	Mast/fork carriage tilt, forward/backward	a/b (°)	2.0/4.0	2.0/4.0	2.0/4.0
	4.2	Height of mast, lowered	h ₁ [mm]	3180	3430	3655
	4.3	Free lift	h ₂ [mm]	2051	2301	2776
	4.4	Lift	h ₃ [mm]	7555	8255	8955
	4.5	Height of mast, extended	h ₄ [mm]	8301	9001	9701
	4.7	Height of overhead guard (cabin)	h ₅ [mm]	2110 ²⁾	2110 ²⁾	2110 ²⁾
	4.8	Height of seat/stand on platform	h ₆ [mm]	866 - 886 ⁹⁾	866 - 886 ⁹⁾	866 - 886 ⁹⁾
	4.10	Height of reach legs	h ₈ [mm]	307.5	307.5	372.5
	4.19	Overall length	l ₁ [mm]	2478 ^{1) 9)}	2478 ^{1) 9)}	2550 ^{1) 9)}
	4.20	Length to fork face	l ₂ [mm]	1325	1325	1397
	4.21	Overall width	b ₁ /b ₂ [mm]	1270	1270	1270
	4.22	Fork dimensions DIN ISO 2331	s/e/l [mm]	51 x 106 x 1153 ^{8) 9)}	51 x 106 x 1153 ^{8) 9)}	51 x 106 x 1153 ^{8) 9)}
	4.23	Fork carriage to ISO 2328, class/type A, B		2A	2A	2A
	4.24	Width of fork carriage	b ₃ [mm]	830	830	830
	4.25	Fork spread	b ₄ [mm]	322/716 ⁹⁾	322/716 ⁹⁾	322/716 ⁹⁾
	4.26	Distance between wheel arms/loading surfaces	b ₅ (mm)	920	920	920
	4.28	Reach travel	l ₄ [mm]	465	537	567
	4.31	Ground clearance, below mast	m ₁ [mm]	75	75	75
	4.32	Ground clearance, centre of wheelbase	m ₂ [mm]	70	70	70
	4.34.1	Aisle width for pallets 1000x1200 crossways	A ₃₁ [mm]	2781 ^{1) 3) 4)}	2797 ^{1) 3) 4)}	2865 ^{1) 3) 4)}
4.34.2	Aisle width with pallet 800x1200 along forks	A ₃₂ [mm]	2848 ^{1) 3) 4)}	2852 ^{1) 3) 4)}	2920 ^{1) 3) 4)}	
4.35	Turning radius	W ₃ [mm]	1640 ⁵⁾	1710 ⁵⁾	1778 ⁵⁾	
4.37	Length of chassis	l ₃ [mm]	1737	1817	1922	
Performances	5.1	Travel speed, with/without load	[km/h]	14/14 ^{6) 7)}	14/14 ^{6) 7)}	14/14 ^{6) 7)}
	5.2	Lifting speed, with/without load	[m/s]	0.55/0.66	0.52/0.66	0.46/0.66
	5.3	Lowering speed, with/without load	[m/s]	0.55/0.44	0.55/0.44	0.55/0.44
	5.4	Reach speed, with/without load	[m/s]	0.2	0.2	0.2
	5.8	Maximum climbing ability, with/without load	[%]	10.0/10.0	10.0/10.0	10.0/10.0
	5.9	Acceleration time, with/without load	[s]	4.8/4.7	4.9/4.7	5.1/4.7
	5.10	Service brake		hydr./mech.	hydr./mech.	hydr./mech.
Electric motors	6.1	Drive motor rating S2 60 min	[kW]	6.5	6.5	6.5
	6.2	Lift motor rating at S3 15%	[kW]	13 ⁹⁾	13 ⁹⁾	13 ⁹⁾
	6.3	Battery according to DIN 43531/35/36 A,B,C,no		nein ⁹⁾	no ⁹⁾	no ⁹⁾
	6.4	Battery voltage/rated capacity (5h)	[V/Ah]	48/560/620 ⁹⁾	48/560/620 ⁹⁾	48/700/775 ⁹⁾
	6.5	Battery weight (± 5%)	[kg]	954 ⁹⁾	954 ⁹⁾	1134 ⁹⁾
	6.6	Power consumption according to VDI cycle	[kWh/h]	on request ⁹⁾	on request ⁹⁾	on request ⁹⁾
Others	10.1	Operating pressure for attachments	[bar]	200	200	200
	10.2	Oil flow for attachments	[l/min]	10	10	10
	10.7	Sound pressure level LpAZ (at the driver's seat)	[dB (A)]	63	63	64

1) Alternative batteries may alter l₁, A₃₁ and service weight.

2) With ambient cabin +95 mm

3) Including a 200 mm (min.) operating aisle clearance.

4) Some truck specification require a reach-back restriction. Possibly increased aisle width (A₃₁)

5) Attention, with cabin increased turning radius (W₃) due to required fender.

6) Forward; backward

7) Depending on performance setting

8) Take dimensions into account when selecting load carriers

9) These values differ from the values of a standard vehicle due to the EX-version.

TECHNICAL DATA

ACCORDING TO VDI 2198

Characteristics	1.1	Manufacturer	LINDE	LINDE	
	1.2	Manufacturer's type designation	R20 HD EX (3GD)	R25 EX (3GD)	
	1.2a	Series	1120-25	1120-25	
	1.3	Power unit	Battery	Battery	
	1.4	Operation	Seat	Seat	
	1.5	Load capacity/Load	Q [t]	2.0	2.5
	1.6	Load centre distance	c [mm]	600/500	600/500
	1.8	Axle centre to fork face	x [mm]	419	419
	1.9	Wheelbase	y [mm]	1669	1669
Weight	2.1	Service weight	[kg]	5175 ^{1) 9)}	5175 ^{1) 9)}
	2.3	Axle load without load, front/rear	[kg]	2971/2204 ⁹⁾	2971/2204 ⁹⁾
	2.4	Axle load, fork outreached, with load, front/rear	[kg]	1046/6129 ⁹⁾	791/6884 ⁹⁾
	2.5	Axle load, fork retracted, with load, front/rear	[kg]	2754/4421 ⁹⁾	2700/4975 ⁹⁾
Wheels, Tyres	3.1	Tyres rubber, SE, pneumatic, polyurethane	Polyurethane	Polyurethane	
	3.2	Tyre size, front	ø360 x 140 antistatic	ø360 x 140 antistatic	
	3.3	Tyre size, rear	ø350 x 100 antistatic	ø350 x 100 antistatic	
	3.5	Wheels, number front/rear (x = driven)	1x/2	1x/2	
	3.6	Track width, front	b ₁₀ [mm]	0	0
	3.7	Track width, rear	b ₁₁ [mm]	1167	1167
Dimensions	4.1	Mast/fork carriage tilt, forward/backward	a/b (°)	2.0/4.0	2.0/4.0
	4.2	Height of mast, lowered	h ₁ [mm]	4930	4930
	4.3	Free lift	h ₂ [mm]	3800	3800
	4.4	Lift	h ₃ [mm]	11455	11455
	4.5	Height of mast, extended	h ₄ [mm]	12201	12201
	4.7	Height of overhead guard (cabin)	h ₆ [mm]	2110 ²⁾	2110 ²⁾
	4.8	Height of seat/stand on platform	h ₇ [mm]	866 - 886 ⁹⁾	866 - 886 ⁹⁾
	4.10	Height of reach legs	h ₈ [mm]	372.5	372.5
	4.19	Overall length	l ₁ [mm]	2622 ^{1) 9)}	2622 ^{1) 9)}
	4.20	Length to fork face	l ₂ [mm]	1469	1469
	4.21	Overall width	b ₁ /b ₂ [mm]	1270	1270
	4.22	Fork dimensions DIN ISO 2331	s/e/l [mm]	51 x 106 x 1153 ^{8) 9)}	51 x 106 x 1153 ^{8) 9)}
	4.23	Fork carriage to ISO 2328, class/type A, B		2A	2A
	4.24	Width of fork carriage	b ₃ [mm]	830	830
	4.25	Fork spread	b ₂ [mm]	322/716 ⁹⁾	322/716 ⁹⁾
	4.26	Distance between wheel arms/loading surfaces	b ₄ [mm]	920	920
	4.28	Reach travel	l ₄ [mm]	639	639
	4.31	Ground clearance, below mast	m ₁ [mm]	75	75
	4.32	Ground clearance, centre of wheelbase	m ₂ [mm]	65	65
	4.34.1	Aisle width for pallets 1000x1200 crossways	A _{st} [mm]	2950 ^{1) 3) 4)}	2950 ^{1) 3) 4)}
4.34.2	Aisle width with pallet 800x1200 along forks	A _{st} [mm]	2992 ^{1) 3) 4)}	2992 ^{1) 3) 4)}	
4.35	Turning radius	W ₉ [mm]	1915 ⁵⁾	1915 ⁵⁾	
4.37	Length of chassis	l ₇ [mm]	2066	2066	
Performances	5.1	Travel speed, with/without load	[km/h]	14/14 ^{6) 7)}	14/14 ^{6) 7)}
	5.2	Lifting speed, with/without load	[m/s]	0.46/0.66	0.39/0.66
	5.3	Lowering speed, with/without load	[m/s]	0.55/0.44	0.55/0.44
	5.4	Reach speed, with/without load	[m/s]	0.2	0.2
	5.8	Maximum climbing ability, with/without load	[%]	10.0/10.0	10.0/10.0
	5.9	Acceleration time, with/without load	[s]	5.3/4.8	5.4/4.8
	5.10	Service brake		hydr./mech.	hydr./mech.
Electric motors	6.1	Drive motor rating S2 60 min	[kW]	6.5	6.5
	6.2	Lift motor rating at S3 15%	[kW]	13 ⁹⁾	13 ⁹⁾
	6.3	Battery according to DIN 43531/35/36 A,B,C,no		no ⁹⁾	no ⁹⁾
	6.4	Battery voltage/rated capacity (5h)	[V/Ah]	48/840/930 ⁹⁾	48/840/930 ⁹⁾
	6.5	Battery weight (± 5%)	[kg]	1321 ⁹⁾	1321 ⁹⁾
	6.6	Power consumption according to VDI cycle	[kWh/h]	on request ⁹⁾	on request ⁹⁾
Others	10.1	Operating pressure for attachments	[bar]	200	200
	10.2	Oil flow for attachments	[l/min]	10	10
	10.7	Sound pressure level LpAZ (at the driver's seat)	[dB (A)]	64	64

1) Alternative batteries may alter l₁, A_{st} and service weight.

2) With ambient cabin +95 mm

3) Including a 200 mm (min.) operating aisle clearance.

4) Some truck specification require a reach-back restriction. Possibly increased aisle width (A_{st})

5) Attention, with cabin increased turning radius (W₉) due to required fender.

6) Forward; backward

7) Depending on performance setting

8) Take dimensions into account when selecting load carriers

9) These values differ from the values of a standard vehicle due to the EX-version.

STANDARD EQUIPMENT/OPTIONAL EQUIPMENT

STANDARD EQUIPMENT

Linde Load Control for lift/lower, reach, tilt and side shift

Variable energy saving/performance modes (Economy, Efficiency, Performance) for individual applications

Linde twin accelerator pedals

Resiliently mounted operator's compartment

Fully adjustable seat with auto adjustment for operator's weight

Integral, adjustable control console

Generous storage compartments

Comprehensive digital instrument display

Lift height indicator above free lift zone

Key switch, or alternatively PIN code access

Sealed, maintenance-free AC 6.5kW drive and 13kW lift motors

Linde rheological 180° electric steering with tactile feedback

Polyurethane drive and load wheels, antistatic

Display battery charging status

Linde Digital Control System (LDC) for smooth, precise electronic control of all traction and hydraulic functions

Mast:

Torsion-resistant fixed clear view triplex mast

High residual capacities

Tilting fork carriage and integral side shift

Fork length 1150 mm

Safety:

Monitoring system stops truck in the event of traction, steering or lift failure

Linde Curve Assist, proportional adjustment of driving speed when cornering

Four independent braking systems (Regenerative and counter current braking, holding brake control with automatic parking brake and all-wheel brake system)

Automatic slowdown at end of reach travel and at max. lift

Protective polycarbonate screen between console and mast

Batteries and Chargers:

48V batteries, 360Ah-930Ah

Suitable chargers/short time chargers

OPTIONAL EQUIPMENT

Fixed clear view triplex masts with lift heights from 4355 mm to 12955 mm

Linde Dynamic Mast Control (DMC) with Electric Reach (ER)

Single axis joysticks for each hydraulic function

Single accelerator pedal, automotive layout with left foot interlock

360° steering (single accelerator pedal only)

High Vision armoured glass roof

CCTV camera system

Vision system, combined cameras on overhead guard and mast, split screen image*

Lift height pre-selector

Adjustable ambient light

Mast-comfort-package incl. soft landing of forks

Auto-leveling of forks

Height adjustable operator's console

LED standard working lights on overhead guard

BlueSpot™ safety light

2 VertiLights™ diagonally mounted on the mast

Flashing beacon

Connect Linde Fleet management

PVC covered seat, antistatic

Ambient cab

Draught protection door

Side guidance wheels

Load wheel protection

Load backrest

Steel mesh profile for overhead guard

Audible warning with fork leading and/or fork trailing

Additional hydraulic circuit for attachments

Battery on rollers

Battery carrier rollers

Other fork lengths

Fork extensions

Alternative colour schemes

Other options on request

*Delivery time on request

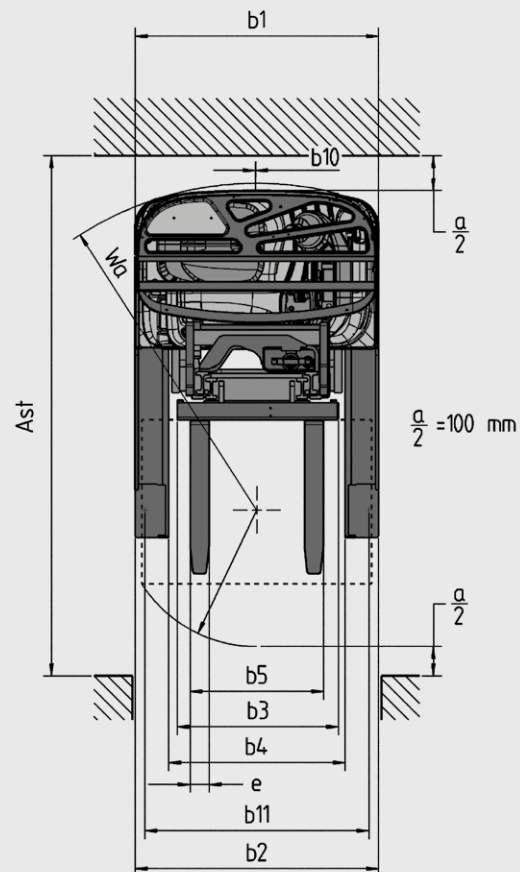
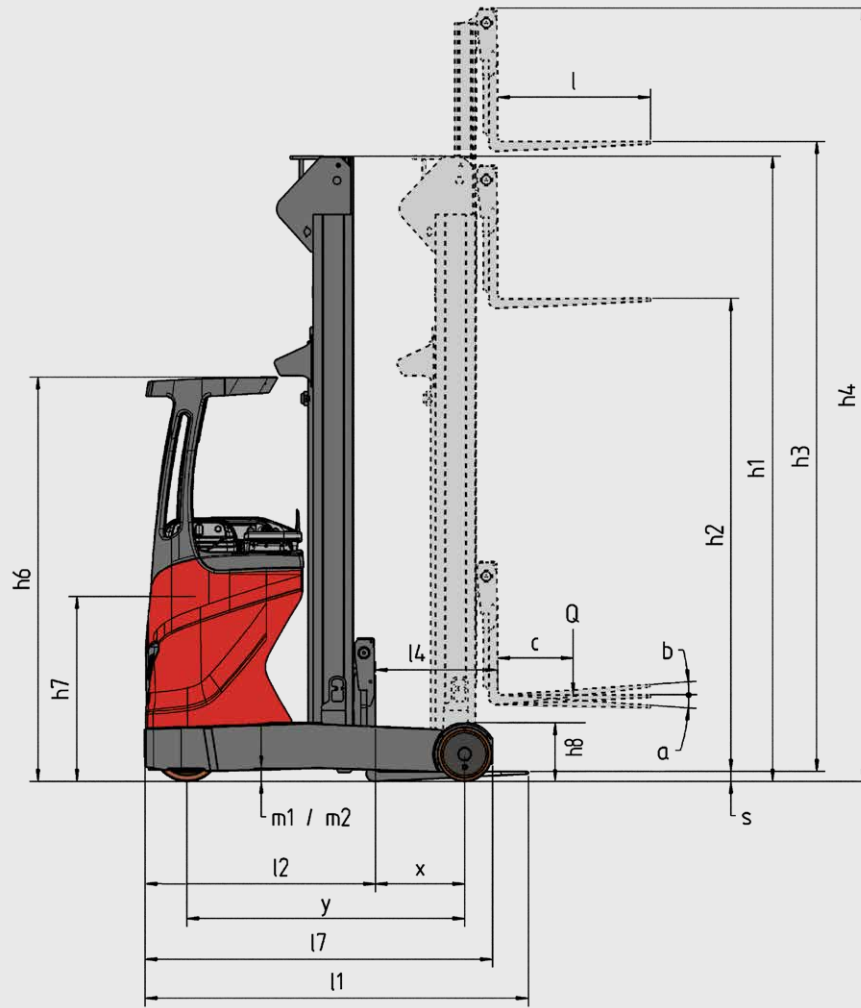


TABLE FOR MASTS

The following lifts are available within the parameters indicated for the models shown:

R14 HD EX: 4355-9455 mm, R16 HD EX: 4355-11455 mm, R20 EX: 4355-11455 mm, R20 HD EX: 4355-12955 mm, R25 EX: 4355-7955 mm															
Lift	h_3	4355	4655	5155	5755	6355	6655	6955	7255	7955	7955	8255	8555	8955	9155
Free lift	h_2	1001	1101	1251	1451	1651	1751	1851	1951	2051	2201	2301	2401	2526	2601
Height of mast, lowered	h_1	2130	2230	2380	2580	2780	2880	2980	3080	3180	3330	3430	3530	3655	3730
Height of mast, extended	h_4	5101	5401	5901	6501	7101	7401	7701	8001	8301	8701	9001	9301	9701	9901
R14 HD EX: 4355-9455 mm, R16 HD EX: 4355-11455 mm, R20 EX: 4355-11455 mm, R20 HD EX: 4355-12955 mm, R25 EX: 4355-7955 mm															
Lift	h_3	9455	9655	9955	10155	10455	10655	10955	11155	11455	11755	11955	12255	12455	12955
Free lift	h_2	2701	2751	2901	3026	3176	3301	3476	3601	3801	3975	4100	4300	4425	4800
Height of mast, lowered	h_1	3830	3880	4030	4155	4305	4430	4605	4730	4930	5105	5230	5430	5555	5930
Height of mast, extended	h_4	10201	10401	10701	10901	11201	11401	11701	11901	12201	12501	12701	13001	13201	13701

Alternative lift heights are available on request. Lift height = $h_3 + s$.

TABLE FOR THE AVAILABILITY BY ZONES AND TEMPERATURE CLASSES

	R 14 HD EX			R 16 HD EX			R 20 EX			R 20 HD EX			R 25 EX		
	Zone 2	Zone 22	Zone 2/22	Zone 2	Zone 22	Zone 2/22	Zone 2	Zone 22	Zone 2/22	Zone 2	Zone 22	Zone 2/22	Zone 2	Zone 22	Zone 2/22
Explosion group IIB	x		x	x		x	x		x	x		x	x		x
Temperature class T2	x		x	x		x	x		x	x		x	x		x
Temperature class T3	x		x	x		x	x		x	x		x	x		x
Temperature class T4	x		x	x		x	x		x	x		x	x		x
Group of dust IIIA/IIIB		x	x		x	x		x	x		x	x		x	x
Group of dust IIIC		x	x		x	x		x	x		x	x		x	x
Max. surface temperature 135°C		x	x		x	x		x	x		x	x		x	x

FEATURES

Explosion protection

- Certification according to ATEX 2014/34/EU
- Implementation of customer-specific requirements in compliance with standards
- Protection of electrical equipment with the help of various types of ignition protection, e.g. increased safety, intrinsic safety, flameproof enclosure
- Protection against mechanically generated sparks, e.g. brakes and coated forks
- Protection against unacceptably high temperatures, e.g. electronic monitoring
- Protection against dangerous electrostatic charges, e.g. conductive tyres, plastics, seat covers



Superb working environment

- Outstanding comfort and functionality from the unique, resiliently mounted work station with a comfort seat that is fully adjustable to the operator's personal preferences
- Integral, adjustable control console incorporating all operating controls
- Linde Load Control: precise, effortless fingertip control of all mast movements
- Outstanding all-round visibility of working environment and load

Stability

- Chassis designed and built for maximum strength and durability
- Heavy-duty design and components enhance the inherent low centre of gravity for optimum stability and high residual capacities
- Linde Curve Assist for safe cornering

Linde clear view mast

- Torsion-resistant fixed clear view triplex mast
- Twin cylinder configuration for optimum visibility
- Hydraulic hoses reeved through the mast to enhance visibility
- Tilting fork carriage and integral side shift



Precision

- Confident, seamless manoeuvring with unique Linde twin accelerator pedals
- High precision load handling with Linde Load Control
- Highly responsive and progressive electric rheological steering
- Short wheelbase with compact chassis dimensions ensures easy, efficient manoeuvring

Innovations

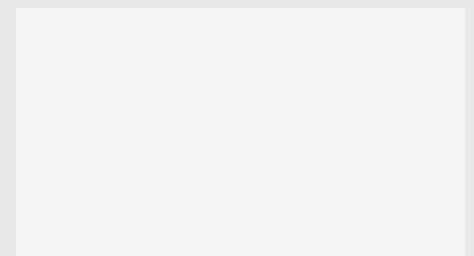
- Innovative standard series options for use in potentially explosive atmospheres, e.g. the fleet management system Linde connect, VertiLight lighting solution, Dynamic Mast Control (DMC) assistance system
- The DMC based on Electric Reach counteracts the dynamic static mast deflection and oscillations generated during the lifting process

Service

- Maintenance-free three-phase steering, drive and lift motors for the EX-area
- Individually adjustable Linde Digital Control with diagnostic procedures
- All service access points are combined in a maintenance-friendly way
- Service intervals of 1000 operating hours
- Central 24/7 provision of spare parts
- Dense service network with certified technicians

Anderungen im Sinne des Fortschritts vorbehalten. Abbildungen und technische Angaben können Optionen enthalten und sind für die Ausführung unverbindlich. Alle Maßangaben unterliegen den üblichen Toleranzen.

Überreicht durch:



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Printed in Germany 785.e.0,5.0718.IndA.Ki