

## Features

### Cabin

- Side seated operation allows the truck operator to have excellent vision during both forward and reverse traction of the truck
- This driving position also allows the operator to park the truck in aisle, and exit the cab safely
- Comfortable working space for increased throughput
- Various comfortable and adjustable seat options
- Different storage compartment options are available to suit individual customer requirements



### Linde System Control (LSC)

- The Linde system control (LSC) represents a significant advance in the smart control of Man down VNA trucks
- LSC Standard 3.0. Dynamical diagram of residual capacity depending on the actual speed and lifting heights
- LSC with load recognition 3.1. Detection of load, additional lifting functions are adjusted
- LSC with load sensor 3.2. Detection of load, additional lifting functions are adjusted as well the driving parameters
- LSC with weight and load recognition 3.3. Driving profile depending on the actual transported weight plus the 3.1 optimization

### Modular concept

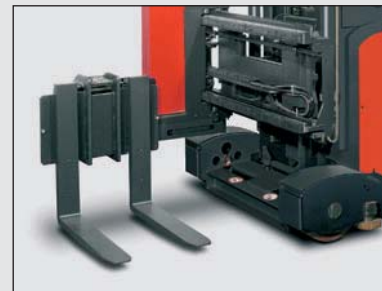
- Unique modular designed truck enables the perfect specification for each application
- Combination of different lift and drive motors, chassis, masts, batteries, cabins, etc. to suit each application

### Control concept and display

- The high contrasting LCD display gives excellent driver information
- Fatigue free working due to ergonomic positioned multifunction joystick
- The simple ergonomic controls allow precise, accurate function control, once again reducing driver fatigue and increasing truck throughput

### Mast

- Standard and triplex mast options are available up to 1350kg capacity
- The slim mast design gives excellent vision when both stacking and retrieving pallets
- A rigid, strong mast design helps reduce mast sway, therefore increasing truck cycle times



### Drive and lift

- High performance AC drive and Lift motors are fitted as standard
- Optional motor sizes allow the truck performance to be matched to customer requirements

### Batteries

- Easy and quick battery change with truck battery rollers and static battery stands
- The modular system allows batteries from 465 to 1240Ah to be fitted

### Camera and Positioning

- Optional positioning systems are available helping to give high throughputs
- Easier pallet handling at height through camera system
- Safe driving with camera

Subject to modification in the interests of progress. Illustrations and technical details not binding for actual constructions. All dimensions subject to usual tolerances.

Printed in Denmark. TruckType: 99 83 83 94



## Electric Man-Down Turret Truck Capacity up to 1350 kg A

SERIES 5022

Linde Material Handling

Linde

### Safety

The new Linde A Man down range is a versatile VNA system truck designed for high density storage and retrieval of unit loads in very narrow aisles. In addition to modern, functional styling, the A range provides an environment in which the operator can work in complete comfort and safety.

### Performance

Intuitive use of the control panels enables throughput of goods to be increased without removing the hands. The operator can check the truck's status via the multifunctional display. Designed for low energy consumption, the truck also returns energy to the battery during braking and mast lowering.

### Comfort

A perfect interface between operator and truck has been achieved with the Linde ergonomic design concept, including spacious cab, comfort class seat and intuitive layout of all controls. The operators working environment ensures optimum performance.

### Reliability

Linde has used its vast experience in very narrow aisle applications, in conjunction with the latest technology available to ensure the new A range is a high quality product with exceptional product life. CAN bus diagnostics enable rapid fault finding and repair helping to achieve exceptional levels of truck uptime.

### Productivity

The unique modular design ensures that an individual truck specification can be tailored to match the application precisely in order to maximise productivity at all times. The smart electronics of Linde System Control (LSC) continuously monitors the truck's technical potential in order to deliver optimum simultaneous lift and travel speeds relative to lift height and load weight.

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Linde Material Handling

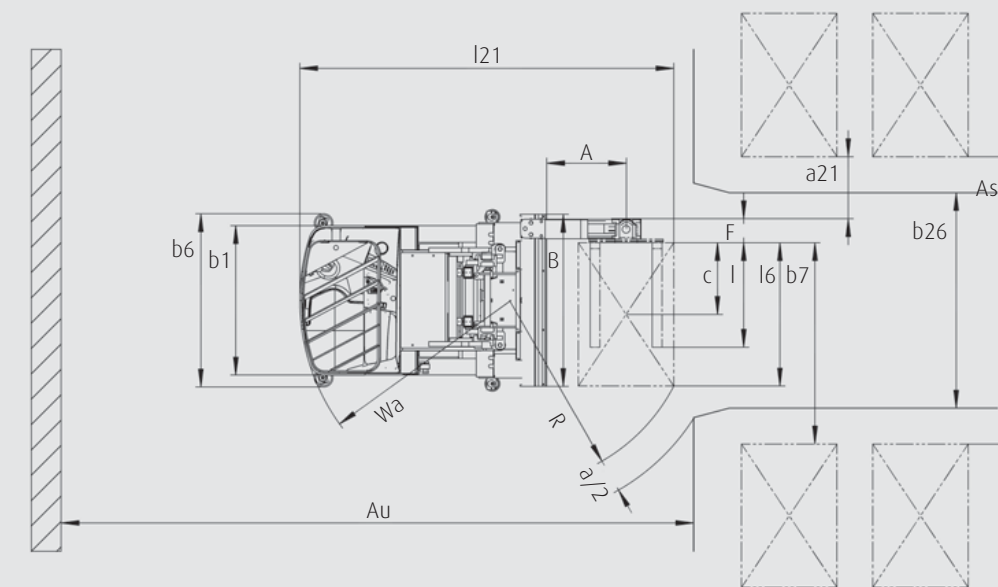
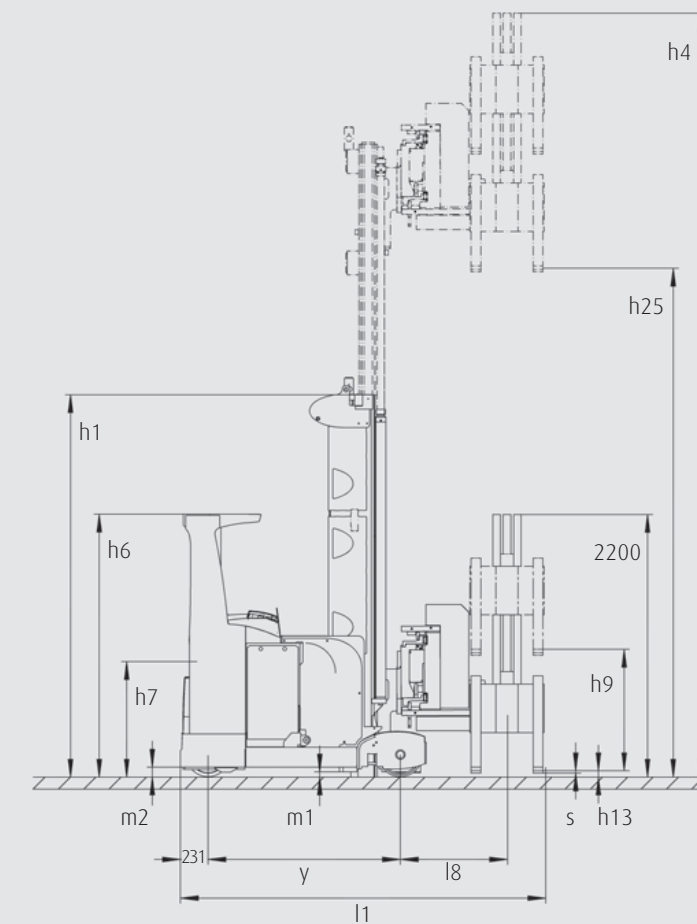
Linde

# Technical data (according to VDI 2198)

		1.1	1.2	1.3	1.4	1.5	1.6	1.9
Characteristics	1.1	Manufacturer	LINDE	LINDE	LINDE			
	1.2	Manufacturer's model designation	<b>A</b>	<b>A</b>	<b>A</b>			
	1.3	Power unit	Battery	Battery	Battery			
	1.4	Operation	Seated	Seated	Seated			
	1.5	Load carrying capacity	Q (kg)	1000	1350	1350		
	1.6	Load centre	c (mm)	600	600	600		
Weight	2.1	Weight (incl. battery)	kg	5114	5985	6634		
	2.3	Axle loadings without load front/rear	kg	1855/3259	2176/3809	2531/4102		
	3.1	Tyres		Polyurethane	Polyurethane	Polyurethane		
Wheels	3.2	Tyre size, front	mm	360/140	360/140	360/140		
	3.3	Tyre size, rear	mm	370/160	370/160	370/160		
	3.5	Wheels, number front/rear (x=drive wheel)		1x/2	1x/2	1x/2		
	3.6	Track width, front	b10 mm	1290	1290	1290		
	3.7	Track width, rear	b11 mm	-	-	-		
	Basic dimensions	4.2	Height of mast, lowered	h1 (mm)	3400	3900	2900	
4.3		Free lift	h2 (mm)	-	-	1650		
4.4		Lift height	h3 (mm)	4600	5200	5050		
4.5		Height, mast raised	h4 (mm)	6050	6650	6500		
4.7		Height to top of overhead guard	h6 (mm)	2200	2200	2200		
4.8		Seat height	h7 (mm)	1050	1050	1050		
4.15		Fork height lowered	h13 (mm)	60	60	60		
4.19		Overall length (incl. forks)	l1 (mm)	2884	3028	3232		
4.21		Overall width	b1/b2 (mm)	1250/1500	1250/1500	1250/1500		
4.22		Fork dimensions	s/e/l (mm)	50/120/1200	50/120/1200	50/120/1200		
4.23		Fork carriage to DIN 15173 / class/form A, B, no	(mm)	Special	Special	Special		
4.24		Width of fork carriage	b3 (mm)	710	710	710		
4.25		Width of forks min./max.	b5 (mm)	500/640	500/640	500/640		
4.27		Width over side guide rollers	b6 (mm)	1675	1645	1645		
4.29		Lateral reach travel	b7 (mm)	1400	1308	1308		
4.31		Ground clearance beneath mast, laden	m1 (mm)	40	40	40		
4.32		Ground clearance at centre of wheelbase	m2 (mm)	80	80	80		
4.34		Aisle width	Ast (mm)	1740	1650	1650		
4.35		Turning radius	Wa (mm)	1826	1970	2174		
4.38		Centre of axle to fork pivot	l8 (mm)	703	703	703		
4.39		Head centre	A (mm)	480	480	480		
4.40		Width of reach carriage	B (mm)	1560	1465	1465		
4.41		Head width	F (mm)	250	250	250		
4.42	Transfer aisle width (min.)	Au (mm)	3346	3490	3694			
Performance	5.1	Travel speed, with/without load	km/h	10.5/10.5	10.5/10.5	10.5/10.5		
	5.2	Lift speed, with/without load	m/s	0.56/0.70	0.51/0.55	0.52/0.55		
	5.3	Lowering speed, with/without load	m/s	0.55/0.55	0.55/0.55	0.55/0.55		
	5.4	Reach speed, with/without load	m/s	0.30/0.45	0.30/0.45	0.30/0.45		
	5.9	Acceleration time, with/without load	s	5/5	6/6	6/6		
	5.10	Brakes		Regenerative	Regenerative	Regenerative		
E-motors	6.1	Drive motor, Power	kW	6.5kW/S2=60min	6.5kW/S2=60min	6.5kW/S2=60min		
	6.2	Lift motor, Power	kW	24.0kW/S3=15%	24.0kW/S3=15%	24.0kW/S3=15%		
	6.3	Battery		IEC 254-2; C	IEC 254-2; C	IEC 254-2; C		
	6.4	Battery type, voltage, capacity (5h)	V/Ah	PzS, 48 V, 700 Ah	PzS, 48 V, 980 Ah	PzS, 48 V, 1120 Ah		
	6.5	Battery weight (± 5 %)	kg	1119	1498	1688		
Misc	8.1	Type of drive control		Microprocessor	Microprocessor	Microprocessor		
	8.4	Noise level at operator's ear	dB (A)	68	68	68		

Values can vary ± 10 %. The calculated speed profiles are based on our floor quality rules. Subject to change without notice.

Exemplary configuration based on modular system. Please contact your local sales department for an individual truck configuration.



Standard 1 000 kg					
	Total lift above floor	Main lift	Height lowered	Auxiliary lift (2)	Maximum height (1)
	h1	h25	h3	h13	h9
	4 900	8 655	7 600	60	995
	4 400	7 655	6 600	60	995
	3 900	6 655	5 600	60	995
	3 400	5 655	4 600	60	995
	2 900	4 655	3 600	60	995
	2 400	3 655	2 600	60	995
	2 200	3 255	2 200	60	995

Standard 1 350 kg					
	Total lift above floor	Main lift	Height lowered	Auxiliary lift (2)	Maximum height (1)
	h1	h25	h3	h13	h9
	4 900	8 255	7 200	60	995
	4 400	7 255	6 200	60	995
	3 900	6 255	5 200	60	995
	3 400	5 255	4 200	60	995
	2 900	4 255	3 200	60	995
	2 400	3 255	2 200	60	995
	2 200	2 855	1 800	60	995

Triplex 1 350 kg						
	Total lift above floor	Main lift	Freelift	Height lowered	Auxiliary lift (2)	Maximum height (1)
	h1	h25	h3	h2	h13	h9
	3 900	8 505	7 450	2 650	60	995
	3 400	7 405	6 350	2 150	60	995
	2 900	6 105	5 050	1 650	60	995
	2 400	4 605	3 550	1 150	60	995
	2 200	4 005	2 950	950	60	995

AST Data					
	Pallet size	Stacking depth	Ast (3)	AU-min	AU-opt (3)
euro	1 200 x 800	1 200	1 630	3 202	plus 500
	800 x 1 200	800	1 275	3 539	plus 500
chep	1 200 x 1 000	1 200	1 630	3 368	plus 500
	1 000 x 1 200	1 000	1 430	3 505	plus 500

3. Values depend on guidance system. For confirmation of AST and AU please contact your local sales and service dealer.

h25 = h3 + h9 + h13  
1. Without auxiliary lift; h4 - 750 mm

# Equipment

## Standard options

Modular designed truck for perfect customization

### Operators compartment

Hydraulically damped operators fabric seat with weight, rake, lumbar support and longitudinal adjustment  
Ergonomic multifunctional controls  
Truck access via key  
Low step in height for easy access to drivers compartment  
Basic functions without changing position of grip  
Multi purpose display with keypad  
Storage compartments, pen holders and space for bottles, cans or tools integrated  
Clear and distinct control layout  
LCD Display (guidance/ capacity/ steer angle/ battery and operating state/ operating hours/ lift height/ speed/ service info)  
Side seated operation  
All round visibility with the ergonomically designed overhead guard

## Optional equipment

### Operators compartment

Comfortable seats (heated, synthetic leather)  
Wire mesh or makrolon overhead guard cover  
Radio preparation  
Rearview (left/right) and panorama mirror  
Clipboard DIN A4  
Lighting for operators compartment  
Working lights into rack  
Pin code access  
Linde LFM management system

### Throughput

LSC with load recognition, load sensor or weight and load recognition  
Synchronous swivel with stop at 90 degrees  
Automatic fork cyclus  
Overreach facility of forks up to 55 mm  
Twin pedal system  
Pallet positioning aid  
Lift height preselection  
Loadwheel brake for increased travel speed

### Drive

Different drive and lift motors available  
Rail or wire guidance options

### Safety

Different speed reductions and aisle stop functions

Overhead guard with head cushion

### Throughput

LSC standard  
Synchronized lowering  
Synchronous swivel  
Energy recovery when braking or lowering the mast

### Mast /Forks

L-head or telescopic forks

### Motors

13 KW lift motor  
6,5 KW drive motor

### Safety

Warning light mounted on overhead guard (active during all movements)

Personal safety equipment (PSE)

Lifting and driving cut off  
Audible warnings  
Camera systems for driving and pallet handling

### Masts / Forks

Standard masts 1000 kg capacity up to 8655 mm lift height  
Standard masts 1350 kg capacity up to 8255 mm lift height  
Triplex masts 1350 kg capacity up to 8505 mm lift height  
Auxiliary lift (h9=995 mm)  
Alternative fork lengths for different pallet sizes  
Manual or hydraulically adaptable forks  
Gear rack cover for L-head

### Battery

Alternative battery capacities  
Battery mounted on rollers for side change  
Battery roller stands  
Electrical verification for battery lock  
Cable for additional battery

### Environment

Antistatic guide rollers  
Antistatic for inductive guidance

### Service

Online diagnosis tool



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