



ROBOTIC REACH TRUCK R-MATIC

CAPACITY 1600 KG | SERIES 1120

Safety

Thanks to its smart safety management, the R-MATIC anticipates and reacts autonomously to its direct environment. Advanced obstacles detection provides real time speed adjustment to enhance the productivity while offering the utmost safety.

Performance

The unique infrastructure-free geo-guidance system makes the solution flexible and scalable. Stand alone or within larger fleets of robotic trucks, the R-MATIC can easily interact with the customer's environment (doors, conveyors...) and even interface with WMS/ERP. The R-MATIC will always deliver the optimal drive speed to achieve the maximum throughput.

Comfort

The R-MATIC is natively designed to work in a shared environment with people. The user-friendly interface provides all needed controls and information at a glance. Moreover, the dual driving mode makes the R-MATIC intuitive to switch automatic/manual.

Reliability

Fully integrated in the warehouse product range, the R-MATIC benefits from all Linde quality standards, and the robust "DRIVEN BY BALYO" navigation technology. Always available, the R-MATIC will support your business 24/7 while offering significant costs-savings.

Service

Efficiency at work, efficiency in servicing. With a computerized and remote diagnostic system, combined with predictive maintenance program, the R-MATIC remains available at any time.



TECHNICAL DATA

ACCORDING TO VDI 2198

Characteristics	1.1	Manufacturer		LINDE/BALYO
	1.2	Model designation		R-MATIC
	1.2a	Series		1120-00
	1.3	Power unit		Battery
	1.4	Operation		Robotic/Seat
	1.5	Load capacity	Q (kg)	1600
	1.6	Load centre distance	c (mm)	600/500
	1.8	Axle centre to fork face	x (mm)	347
	1.9	Wheelbase	y (mm)	1453
Weight	2.1	Service weight (incl. battery item 6.5)	kg	4000 ¹⁾
	2.3	Axle load without load, front/rear	kg	2375/1625
	2.4	Axle load, fork outreached, with load, front/rear	kg	860/4740
	2.5	Axle load, fork retracted, with load, front/rear	kg	2096/3504
Wheels and types	3.1	Tyres rubber, SE, pneumatic, polyurethane		polyurethane
	3.2	Tyre size, front		Ø 360 x 130
	3.3	Tyre size, rear		Ø 285 x 100
	3.5	Wheels, number front/rear (x = driven)		1x/2
	3.6	Track width, front	b ₁₀ (mm)	0
	3.7	Track width, rear	b ₁₁ (mm)	1490
Dimensions	4.1	Mast/fork carriage tilt, forward/backward	a/b (°)	2.0/4.0
	4.2	Height of mast, lowered	h ₁ (mm)	3430
	4.3	Free lift	h ₂ (mm)	2301
	4.4	Lift	h ₃ (mm)	8255
	4.5	Height of mast, extended	h ₄ (mm)	9001
	4.7	Height of overhead guard (cabin)	h ₅ (mm)	2516
	4.8	Height of seat/stand on platform	h ₇ (mm)	910 - 1040
	4.10	Height of reach legs	h ₈ (mm)	307.5
	4.19	Overall length	l ₂ (mm)	2615 ¹⁾
	4.20	Length to fork face	l ₁ (mm)	1325
	4.21	Overall width	b ₁ /b ₂ (mm)	1561
	4.22	Fork dimensions DIN ISO 2331	s/e/l (mm)	45x100x1150
	4.23	Fork carriage to ISO 2328, Class Type A/B		2A
	4.24	Width of fork carriage	b ₃ (mm)	830
	4.25	Fork spread, min/max	b ₅ (mm)	316/710
	4.26	Width between reach legs	b ₄ (mm)	920
	4.29	Reach travel	l ₄ (mm)	537
	4.31	Ground clearance, below mast	m ₁ (mm)	75
	4.32	Ground clearance, centre of wheelbase	m ₂ (mm)	70
	4.33	Aisle width with pallet 1000x1200 across forks	A _{st} (mm)	2899 ^{1) 2) 3)}
	4.34	Aisle width with pallet 800x1200 along forks	A _{sl} (mm)	2954 ^{1) 2) 3)}
	4.35	Turning radius (front safety zone not included)	W _a (mm)	1812 ⁴⁾
	4.37	Length of chassis	l ₃ (mm)	1969
Performance	5.1	Travel speed, with/without load	km/h	14/14 ⁵⁾
	5.2	Lifting speed, with/without load	m/s	0.52/0.66
	5.3	Lowering speed, with/without load	m/s	0.55/0.44
	5.4	Reach speed, with/without load	m/s	0.2
	5.8	Maximum climbing ability, with/without load	%	10.0/10.0 ⁶⁾
	5.9	Acceleration time, with/without load	s	4.9/4.7
	5.10	Service brake		Hydr./mech.
Drive	6.1	Drive motor, rating S ₂ , 60 min	kW	6.5
	6.2	Lift motor, rating at S ₃ , 15%	kW	14
	6.3	Battery according to DIN 43531/35/36 A, B, C, no		43 531 / C
	6.4	Battery voltage/rated capacity (5h)	V/Ah	48/560/620 ¹⁾
	6.5	Battery weight (± 5%)	kg	939
	6.6	Power consumption according to VDI cycle	(kWh/h)	Upon request
Other	8.2	Operating pressure for attachments	bar	200
	8.3	Oil flow for attachments	l/min	10
	8.4	Noise level at operator's ear	dB (A)	63

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

²⁾ Including a = 200 mm (min.) operating aisle clearance;

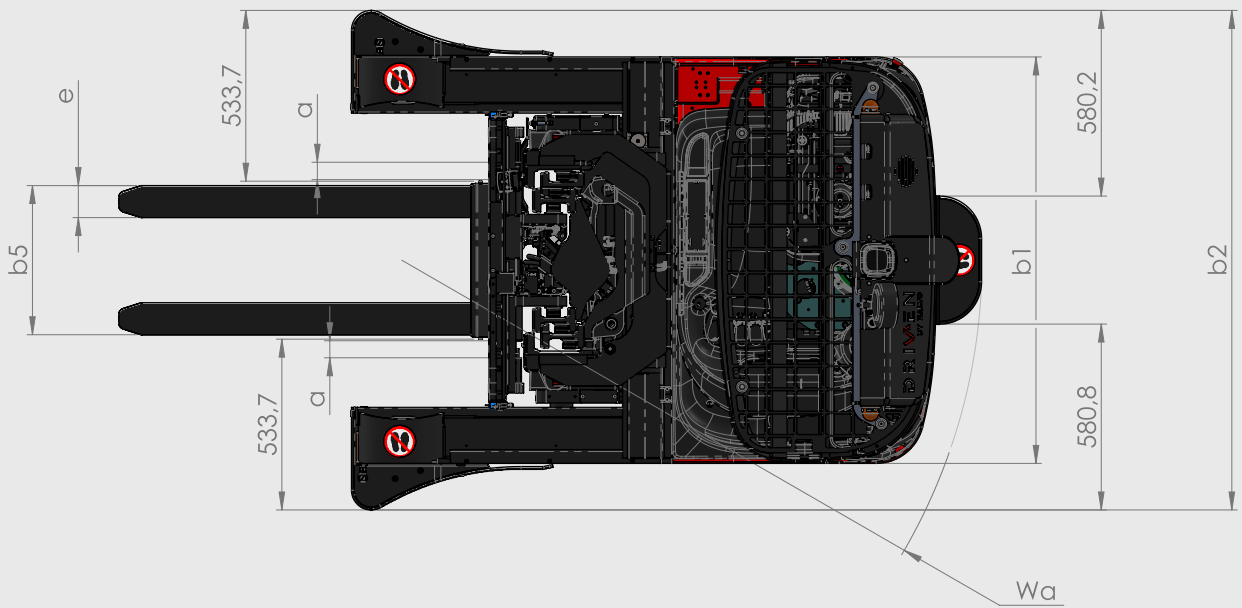
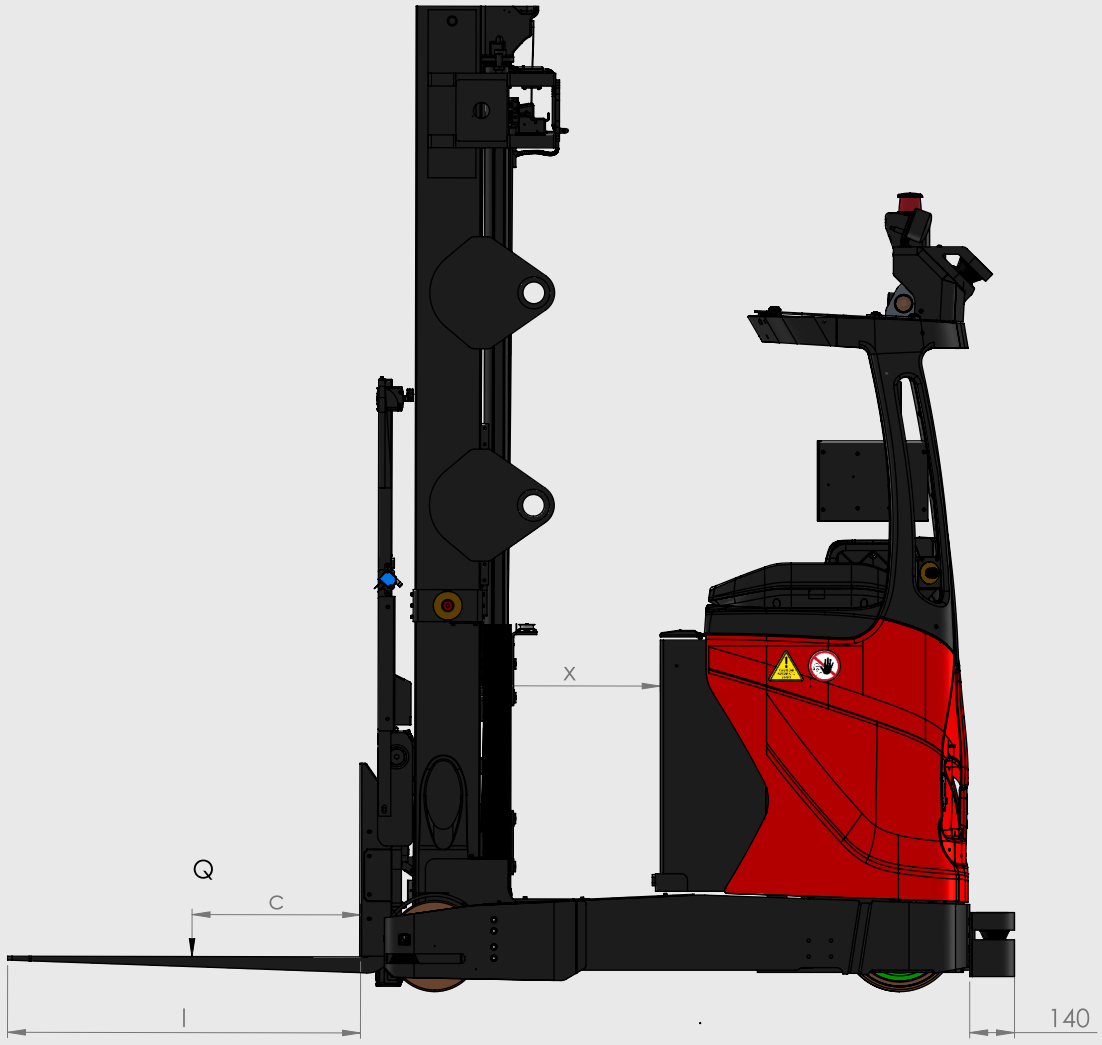
³⁾ Some truck specifications require a reach-back restriction.

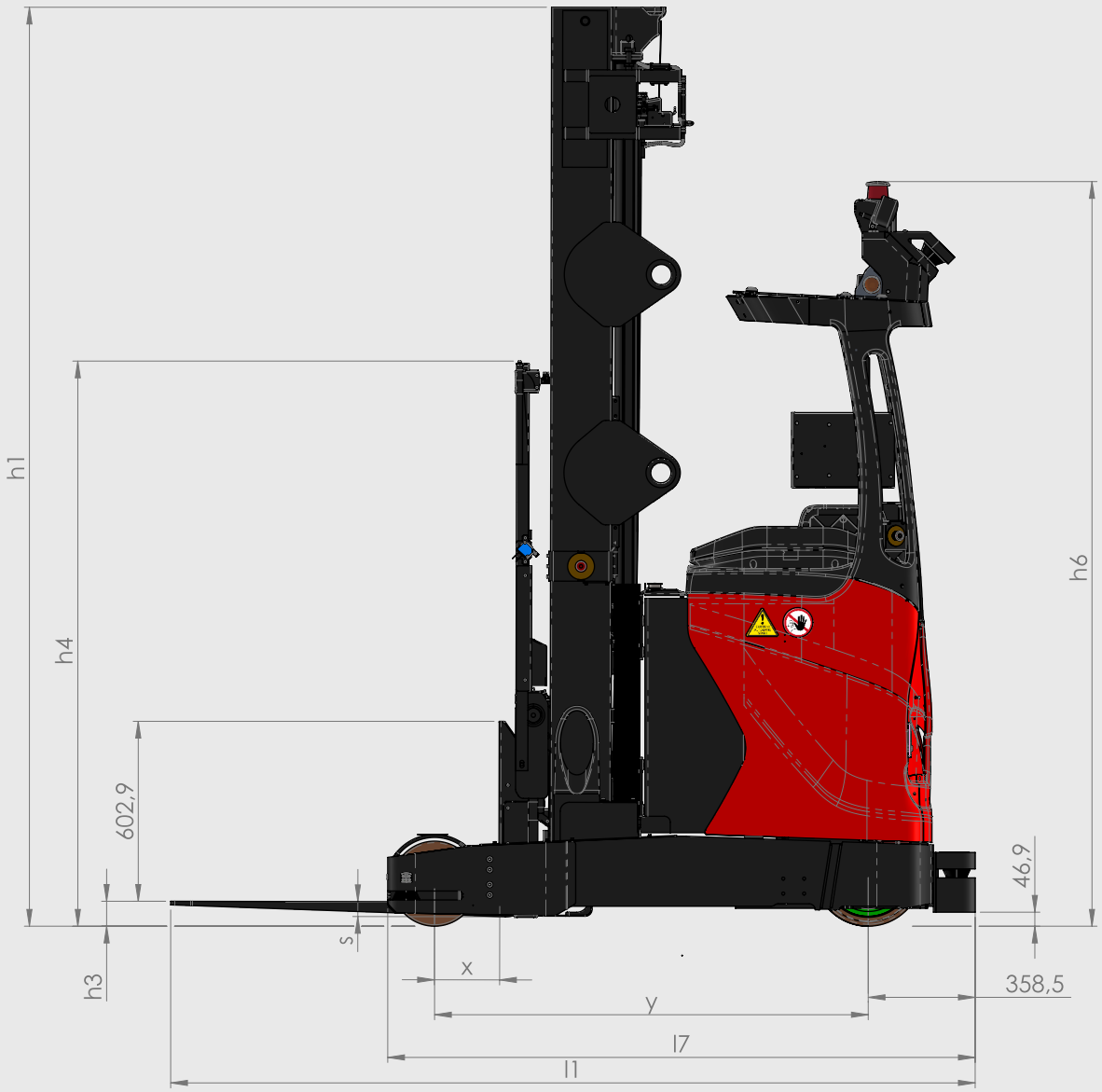
Please note information in Linde World mast table

⁴⁾ Attention: with cabin increased turning radius (W_a) due to required fender

⁵⁾ Robotic mode: forward-backwards: 2.0 m/s - 0.8 m/s

⁶⁾ Robotic mode: max. 3%





STANDARD EQUIPMENT / OPTIONAL EQUIPMENT

STANDARD EQUIPMENT

Navigation module with lighting signals, control panel, touch screen, communication module, navigation laser, 360° safety scanner, traction/steering and lifting software management

Standard drive wheel and standard load wheels

Battery carrier 4PzS

Triplex mast

Fork 560/1150/55 mm

Pre-setting for wet battery

Key switch truck access

Polycarbonate mast protection

Dynamic Mast Control DMC

BlueSpot™

3D camera for obstacle detection (technical conditions apply)

Mobile load detection with 3D camera (single)

WiFi Communication

OPTIONAL EQUIPMENT

Extra grip drive wheel

Battery carrier 5PzS

Battery carriage rollers

Triplex masts with lift heights from 4355 mm to 11455 mm

Variable fork length

Mobile load detection with two 3D cameras (double)

WiMesh communication

Load identification via 1D/2D Barcode

Additional louder horn

Call button (COMBOX)

MAST TABLES

R 16 HD: 6966 - 11455 mm					
Lift	h_3	6955	8555	9655	11455
Free lift	h_2	1851	2401	2751	3801
Height of mast, lowered	h_1	2950	3530	3880	4930
Height of mast, extended	h_4	7701	9301	10401	12201

FEATURES

Driving system

- Standard truck converted into a robotic truck
- Dual driving mode - automatic/manual
- Navigation laser, safety laser (forks following and leading), side safety
- Embedded computer, emergency stop buttons, light and sound warning indicators

Geo-guidance navigation

- Innovative infrastructure-free technology (no reflector)
- Relies on existing structural features (racks, walls, columns...)
- Real time mapping and localization
- Seamless integration in existing layouts, gradual extension or global deployment



Smart safety

- Real time speed-adaptive detection fields
- Unique dynamic cornering detection fields
- Autonomous decision-making capability
- Natural cohabitation with operators and other trucks
- Pallets or obstacles detection thanks to the rear laser scanner

User interface

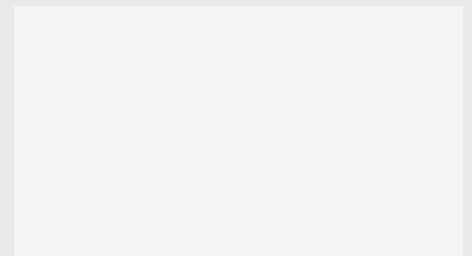
- 7" LCD touch screen
- Robotic truck, battery and system status
- Real time task management and report
- Intuitive path localization
- Service mode with PIN access
- Log extraction via USB

Operations management

- Intelligent 3D pallet detection
- Control software with WMS/ERP interface
- Task and smart traffic management
- Various task triggers: call buttons, sensors, PLCs, control software

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

Presented by:



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