Standard Equipment/Optional Equipment

Standard Equipment

- Modular designed truck for perfect customization
- Navigation module on a robust frame with lighting signals, control panel, touch screen, communication module, navigation laser (horizontal and vertical)
- Front & rear safety scanner
- 2D curtain laser
- Traction/steering & lifting software management
- Robot Manager
- Rack Editor
- L Head forks
- Redundant traction-motor for K-MATIC
- Automatic fork cyclus
- Overreach of forks
- LSC with weight and load recognition, load sensor or weight and load recognition
- Synchronized lowering
- Energy recovery when braking or lowering the cabin

Optional Equipment

- Side Safety Sensor (left and right) for aisle changes
- Standard masts available up to 12m
- Triplex masts available up to 12m. Higher masts available on request
- Different battery (compartment) sizes
- Battery roller for lateral change
- Battery carrier
- Electrical verification for battery lock
- Side covering for battery
- Antistatic guide rollers
- Hydraulic oil filling assistance

Robotic very narrow aisle truck
Capacity up to 1500 kg
K-MATIC

Series 011

Linde Material Handling

Safety

Thanks to its smart safety management, the K-MATIC anticipates and reacts autonomously to its direct environment. Due to the robotic usage there are less rack and pallet damages. Therefore the K-MATIC is ideal, if high value goods are handled and damage costs are causing problems.

Performance

The unique infrastructure-free geoguidance system provides gently aisle changes when recommended by the supervisor. The supervisor is interacting with the WMS/ERP. The in the supply chain flow installed K-MATIC interacts with customer's environment (conveyers, PND stations...) to ensure an optimized and steady process.

Comfort

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

Reliability

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

Productivity

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

Features

Driving system

- Standard truck converted into a robotic truck
- Dual driving mode - automatic/manual
- Navigation laser (horizontal and vertical), safety laser (front & rear), optional on side for aisle changes
- Embedded computer, emergency stop buttons, light and sound warning indicators

Geoguidance 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 with 2D lidar camera
- 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

- 3D pallet detection
- Pallet distance detection control
- Smart traffic via Robot Manager (Supervisor software)
- Task management with WMS/ERP interface
- Rack editor

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Technical Data according to VDI 2198

Characteristics	1.1	Manufacturer		LINDE	LINDE	LINDE
	1.2	Manufacturer's type designition		**K-MATIC Example 0.7**	**K-MATIC Example 1.0**	**K-MATIC Example 1.5**
	1.2a	Series		011	011	011
	1.3	Power unit		Battery	Battery	Battery
	1.4	Operation		Stand/Sitz	Stand/Sitz	Stand/Sitz
	1.5	Load capacity/Load	Q (t)	0.7 [1]	1.0 [1]	1.5 [1]
	1.6	Load centre distance	c (mm)	600	600	600
	1.9	Wheelbase	y (mm)	1586	1874	2108
Weights	2.1	Service weight	(kg)	7163 [2]	8801 [2]	10625 [2]
	2.2	Axle load with load, front/rear	(kg)	2251 / 5612	2963 / 6838	3503 / 8622
	2.3	Axle load without load, front/rear	(kg)	2692 / 4471	3496 / 5305	4214 / 6411
Wheels/Tyres	3.1	Tyres rubber, SE, pneumatic, polyurethane		Vulkollan	Vulkollan	Vulkollan
	3.2	Tyre size, front		Ø 406 x 170	Ø 406 x 170	Ø 406 x 170
	3.3	Tyre size, rear		Ø 370 x 160	Ø 370 x 160	Ø 370 x 160
	3.5	Wheels, number front/rear (x = driven)		1x / 2	1x / 2	1x / 2
	3.6	Track width, front	b10 (mm)	1490	1540	1540
	3.7	Track width, rear	b11 (mm)	0	0	0
Dimensions	4.2	Height of mast, lowered	h1 (mm)	2900	4900	6900
	4.4	Lift	h3 (mm)	3200	7200	10800
	4.5	Height of mast, extended	h4 (mm)	5755	9755	13355
	4.7	Height of overhead guard (cabin)	h6 (mm)	2555	2555	2555
	4.8	Height of seat/stand on platform	h7 (mm)	460	460	460
	4.11	Supplementary lift	h9 (mm)	755 + 920	755 + 920	755 + 920
	4.14	Platform height, raised	h12 (mm)	3660 [3]	7660 [3]	11260 [3]
	4.15	Height, lowered	h13 (mm)	60	60	60
	4.19	Overall length	l1 (mm)	3206 + 200	3494 + 200	3728 + 200
	4.21	Overall width	b1/b2 (mm)	1160 / 1700 [4]	1160 / 1750 [4]	1160 / 1750 [4]
	4.22	Fork dimensions DIN ISO 2331	s/e/l (mm)	50 x 120 x 1200	50 x 120 x 1200	50 x 120 x 1200
	4.24	Width of fork carriage	b3 (mm)	710	710	710
	4.25	Fork spread	b5 (mm)	470 / 640	470 / 640	470 / 640
	4.27	Width over side guide rollers	b6 (mm)	1825	1845	1865
	4.29	Reach, lateral	b7 (mm)	1500	1495	1480
	4.31	Ground clearance, below mast	m1 (mm)	40	40	40
	4.32	Ground clearance, centre of wheelbase	m2 (mm)	87	87	87
	4.34a	Aisle width, travelling	Ast (mm)	1830	1850	1870
	4.35	Turning radius	Wa (mm)	2052	2340	2574
	4.38	Centre of axle to fork pivot	l8 (mm)	999	999	999
	4.39	Head centre	A (mm)	480	480	480
	4.40	Width of reach carriage	B (mm)	1650	1620	1590
	4.41	Head width	F (mm)	240	240	250
	4.42	End aisle width, with/without load	Au (mm)	3625	3913	4150
Performance	5.1	Travel speed, with/without load	(km/h)	10.5 / 10.5	12 / 12	12 / 12
	5.2	Lifting speed, with/without load	(m/s)	0.46 / 0.47	0.6 / 0.6	0.39 / 0.39
	5.3	Lowering speed, with/without load	(m/s)	0.45 / 0.45	0.45 / 0.45	0.43 / 0.43
	5.4	Reach speed, with/without load	(m/s)	0.3 / 0.45	0.3 / 0.45	0.3 / 0.45
	5.9	Acceleration time, with/without load	(s)	6.0 / 6.0	6.0 / 6.0	7.0 / 6.0
	5.10	Service brake		Regenerative	Regenerative	Regenerative
Drive	6.1	Drive motor rating S2 60 min	(kW)	7	7	7
	6.2	Lift motor rating at S3 15%	(kW)	20	24	24
	6.3	Battery according to DIN 43531/35/36 A,B,C,no		43 536 / A	43 536 / A	43 536 / A
	6.4	Battery voltage/rated capacity (5h)	(V)/(Ah)	80 / 465	80 / 775	80 / 930
	6.5	Battery weight (± 5%)	(kg)	1238	1863	2178
	8.1	Type of drive unit		Microprocessor	Microprocessor	Microprocessor
	10.7	Sound pressure level LpAZ (at the driver's seat)	(dB(A))	68	68	68

1) Delta Q = 100 kg; from 500-1500 kg with L-Head model.
2) Figures with battery, see line 6.4/6.5.
3) Picking height = h12 + 1600 mm = h28
4) Step for b2; 50 mm from 1160 - 1800 mm