



Automated Transporting Solutions

G-MATIC

Capacity 1.0 t – 1.5 t | Series 8925/8926

ION

Flat load carrier for short and medium distances

- Effortless transport on load tables capable of travelling under or between transfer stations
- Rotating plate to reorientate the load
- Models with capacities from 1000 to 1500 kg
- Intelligent software control with efficient orientation via QR codes
- Safety technology for hazard-free operation in dedicated areas

TECHNICAL DATA (according to VDI 2198)

Characteristics	1.1	Manufacturer (abbreviation)		Linde MH	Linde MH
	1.2	Manufacturer's type designation		C-MATIC 10	C-MATIC 15
	1.2a	Series		8925-02	8926-02
	1.3	Drive		Battery	Battery
	1.4	Operation		Automatic/Manual	Automatic/Manual
	1.5	Rated capacity/rated load	Q (t)	1.0	1.5
Weight	2.1	Service weight	kg	205//235 ¹⁾²⁾	215//240 ¹⁾²⁾
Tyres/chassis	3.1	Tyres: solid rubber, superelastic, pneumatic, polyurethane		Polyurethane	Polyurethane
	3.4	Auxiliary wheels (dimensions)		Ø 200 × 40	Ø 200 × 40
	3.5	Wheels, number front/rear (X = driven wheels)		2x + 4	2x + 4
	3.6	Tread, front	b10 (mm)	758	758
Dimensions	4.4	Lift	h3 (mm)	60	60
	4.15	Height, lowered	h13 (mm)	260	260
	4.16	Length of loading surface	l3 (mm)	950 ³⁾	1000 ³⁾
	4.18	Width of loading surface	b9 (mm)	750 ³⁾	780 ³⁾
	4.19	Overall length	l1 (mm)	1182	1182
	4.21	Overall width	b1/b2 (mm)	832	832
	4.33	Load dimension b12 × l6	b12 × l6 (mm)	1200 × 1200	1200 × 1200
	4.34	Aisle width predetermined load dimensions	Ast (mm)	1897 ⁴⁾	1897 ⁴⁾
	4.35	Turning radius	Wa (mm)	618.5 ⁵⁾	618.5 ⁵⁾
Performance	5.1	Travel speed, laden/unladen	km/h	4.3/5.4	4.3/5.4
	5.2	Lifting speed, laden/unladen	m/s	0.29	0.29
	5.3	Lowering speed, laden/unladen	m/s	0.21	0.21
	5.8	Max. gradeability, laden/unladen	%	< 5.0 ⁶⁾	< 5.0 ⁶⁾
Electric-engine	6.3	Battery according to DIN 43531/35/36 A, B, C, no		Li-ION	Li-ION
	6.4	Battery voltage/nominal capacity K 5	(V)/(Ah) o. kWh	48/38.5	48/38.5
	6.5	Battery weight (±5%)	kg	23	23
	6.6	Power consumption according to VDI cycle	kWh/h	0.3 ⁷⁾	0.52 ⁷⁾

- Truck for: transport with adaptor plates//table transport
- Adaptor plate weight for C-MATIC 10 : (h13=450 mm, +62 kg), (500, +66), (700, +86); C-MATIC 15 : (450, +70), (500, +75) (700, +94)
- Loading platform rotation diameter : C-MATIC 10 : Ø 1060 mm; C-MATIC 15 : Ø 1114 mm
- Including a 200 mm (min.) operating aisle clearance. With adaptor plate and load dimensions (l6 × b12) of Euro pallet (800 × 1200) = 1642 mm; UK pallet (1000 × 1200) = 1762 mm; US pallet (1016 × 1219) = 1898 mm
- Unladen rotation diameter C-MATIC 10/15: Ø 1237 mm with adaptor plate : C-MATIC 10/15 : Ø 1411 mm
- Suggested max. climbing ability is ≤3%, allowed step height at rated speed ≤5 mm - with reduced speed ≤10 mm, traversable gap at rated speed ≤5 mm - with reduced speed ≤30 mm
- Battery running time (50% fully loaded) C-MATIC 10/15 : 7,5 h/6,5 h; Battery charging time from SOC 0 - 100% : ~1,5 h

PLATFORM AND ADAPTOR PLATE

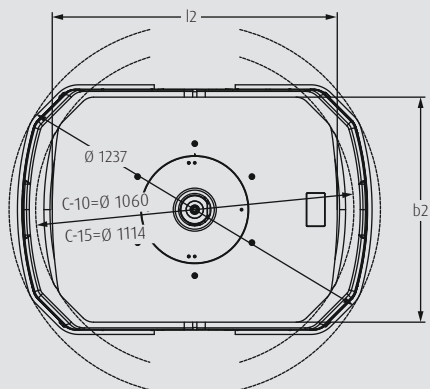
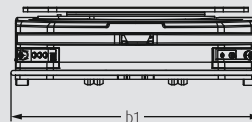
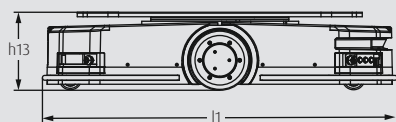
C-MATIC 10	Lift	Height of platform extended max.	Pick up and drop-off height	Max. height of CoG (from floor)	Max. displ. of CoG		Max. capacity	Load carrier type
h13 ¹⁾ (mm)	h3 (mm)	h4 (mm)	h13 ¹⁾ + h2 ²⁾ (mm)	hc1 (mm)	c1 (mm)	c2 (mm)	Q (kg)	l6 × b12 [× m2] (mm)
260	60	320	290	1130	120	160	1000	Table 1200 × 1200 × 290
290	60	350	320	1000	140	166	1000	Pallets l6 × b12
450	60	510	480	840	127	153	1000	Pallets l6 × b12
500	60	560	530	790	125	151	900	Pallets l6 × b12
700	60	760	730	590	117	143	900	Pallets l6 × b12

C-MATIC 15	Lift	Height of platform extended max.	Pick up and drop-off height	Max. height of CoG (from floor)	Max. displ. of CoG		Max. capacity	Load carrier type
h13 ¹⁾ (mm)	h3 (mm)	h4 (mm)	h13 ¹⁾ + h2 ²⁾ (mm)	hc1 (mm)	c1 (mm)	c2 (mm)	Q (kg)	l6 × b12 [× m2] (mm)
260	60	320	290	1130	120	160	1500	Table 1200 × 1200 × 290
290	60	350	320	1000	140	166	1500	Pallets l6 × b12
450	60	510	480	840	127	153	1500	Pallets l6 × b12
500	60	560	530	790	125	151	1300	Pallets l6 × b12
700	60	760	730	590	117	143	1300	Pallets l6 × b12

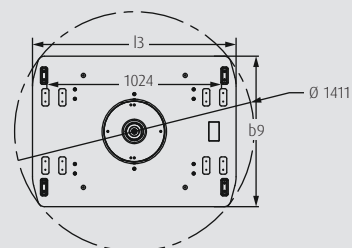
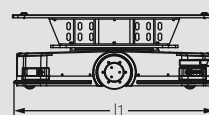
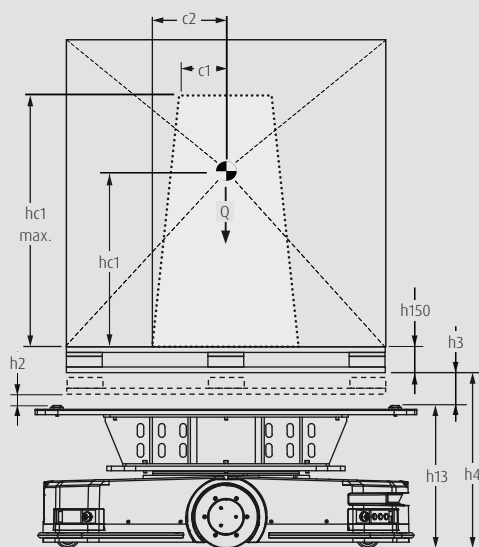
1) h13 = height from floor to top of vehicle (lift lowered)

2) h2 - free lift: 1/2 full lift to reach pick up and drop-off height

C-MATIC 10, C-MATIC 15

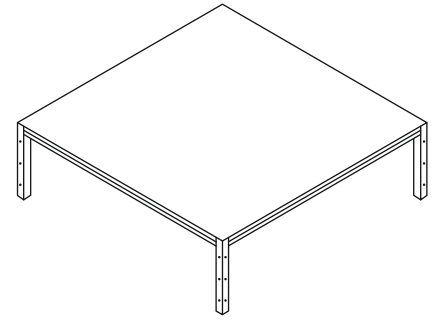
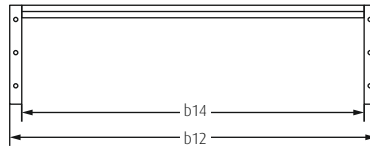
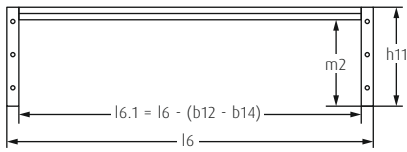


ADAPTOR PLATE: C-MATIC 10, C-MATIC 15



APPLICATION INFORMATION

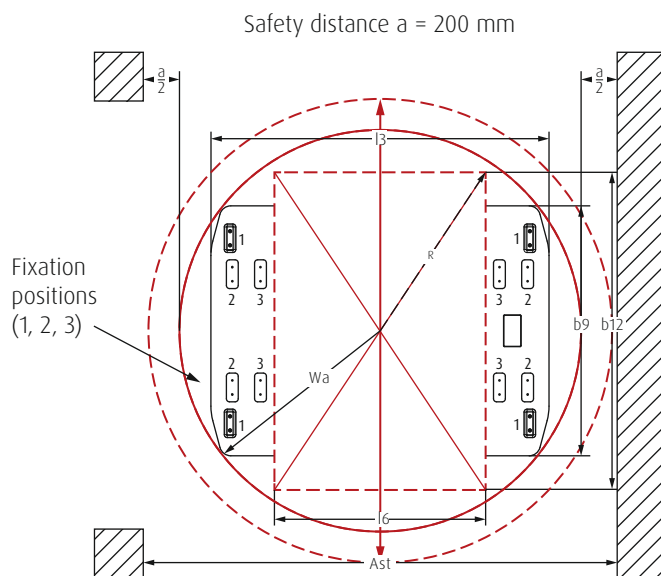
PLATFORM: TABLE REQUIREMENTS



A QR code must be located centrally underneath the table for load identification and orientation.

Manufacturer's type designation	C-MATIC 10	C-MATIC 15
Dimension $l6 \times b12 \times m2$ (mm)	1200 × 1200 × 290	1200 × 1200 × 290
Inner Dimensions $l6.1 \times b14$ (mm)	1080 × 1080	1080 × 1080
Capacity (kg)	1000	1500
Loading height, unladen $h11$ (mm)	330	330

ADAPTOR PLATE: PALLET REQUIREMENTS



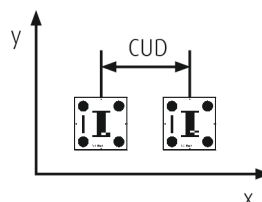
$$Ast = 2 \times \max(Wa, R) + a, \text{ with } a = 200 \text{ mm}$$

$$R = \sqrt{\left(\frac{b12}{2}\right)^2 + \left(\frac{l6}{2}\right)^2}$$

Adaptor plate	C-MATIC 10	C-MATIC 15	Ast (mm)
Adaptor plate dimensions $l3 \times b9$ (mm)	1200 × 887	1200 × 887	1611 mm
Load dimensions ($l6 \times b12$)	Fixation position 1, 2 or 3		
EPAL1, CP2: 800 × 1200 mm	Position 3	Position 3	1642 mm
EPAL3, CP1: 1000 × 1200 mm	Position 2	Position 2	1762 mm
Australia, GMA and North America: 1016 × 1219 mm	Position 1	Position 1	1898 mm

LOCALISATION TECHNOLOGY

The max. QR codes unit distances (CUD) is limited to 1500 mm for vehicle localization.
The different models are optimized for a standard CUD for loads without overhang.



Manufacturer's type designation	Standard CUD (mm × mm)
C-MATIC 10	1350 × 1350
C-MATIC 15	1350 × 1350

STANDARD AND OPTIONAL EQUIPMENT

Manufacturer's type designation/equipment		C-MATIC 10	C-MATIC 15
Off board software	Smart routing algorithm	○	○
	Smart charging logic	○	○
	Interfaces to existing WMS, ERP, etc	○	○
	Interfaces with infrastructure: doors, conveyors, etc	○	○
	Interfaces with Linde Warehouse Management Systems	○	○
On board software	QR code navigation	●	●
	QR code load identification	●	●
	User-friendly log-on to the vehicle	●	●
Safety	Personal detection safety scanner in main direction of travel	●	●
	Safety field switches between lifted and lowered platform	●	●
	Emergency stop buttons on all sides (left and right corners at both front and rear)	●	●
	Safety bumper around the vehicle (front, side, rear)	●	●
Navigation	Positional accuracy ±10 mm	●	●
	Stop accuracy ±5 mm	●	●
	Angular accuracy ±1°	●	●
	Navigation QR codes with interval 1350 × 1350 mm	○	○
HMI interface	Control buttons	●	●
	LED indicators	●	●
	Depending on situation plays warning sounds and/or voice package	●	●
Operation/ load handling	QR code load table identification	○	○
	Turn, transport and drop load through 90°, 180° and 270°	●	●
	Load table dimensions 1200 × 1200 mm	○	○
	Adaptor plate for pick and drop station at height = 320 mm	○	○
	Adaptor plate for workstations at height = 480 mm	○	○
	Adaptor plate for conveyor at height = 530 mm	○	○
	Adaptor plate for heights between h13 = 290 mm and 700 mm	■	■
	Differential drive with dual wheels	●	●
Environment	Turn on the spot with and without locked platform	●	●
	Wifi communication	●	●
Energy	Ambient operating temperature +0 - +40°C	●	●
	Li-ION battery	●	●
Service	Automatic Opportunity Charging Connector	●	●
	Switch for automated or maintenance mode	●	●
	Plug for Hand Control Unit	●	●
	Hand Control Unit	○	○
	Ramp to operate C-MATIC from delivery pallet	○	○

● Standard equipment ○ Optional equipment ■ Special Equipment

CHARACTERISTICS



Dynamic safety fields

Safety

- Laser scanner for reliable detection of vehicle's surroundings
- Immediate reaction to people, other vehicles or obstacles
- Ideal combination of maximum productivity and highest possible safety
- Stable collision protection and emergency stop switch for additional protection



Flexible load handling

Handling

- Orientation based on QR codes on the floor
- Calculation of the optimal route for each individual transport job
- QR codes on optional transport tables for load tracking
- Direct transport of pallets with adaptor plate for different transfer heights
- Optional self-charging station for fully automated battery charging



Low-maintenance design

Service

- Robust technology and long maintenance intervals for maximum availability
- Easy access to all main components for fast maintenance
- Rapid fault diagnosis via cable connection



Customer process focus as a standard

Sales and realisation

- Project-specific concept design including dynamic simulation and proof of concept on site if required
- Combination of manual handling processes and the degree of automation can be optimised to fit the customer needs
- One face to the customer for the whole process from first contact to the lifecycle phase
- Intelligent, scalable software solutions to provide customers with full control of their processes
- Project management and commissioning according to Linde standards with unified tools and templates over the entire network

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

Presented by:



Linde Material Handling GmbH
Carl-von-Linde-Platz | 63743 Aschaffenburg | Germany
Phone + 49 6021 99 0 | Fax + 49 6021 99 1570
www.linde-mh.com | info@linde-mh.com
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