



EWS40

Design

Designed with the aid of the latest methods FEM (Finite Element Modeling) and CAD (Computer Assisted Design).

Performance

The (12V) PMC or (24V) SEM transistor control system delivers peak performance and modern high-tech simplicity. MOSFET transistor modules control the truck's travel, delivering high performance and maximum efficiency.

Maintenance

All electric, electronic, and hydraulic components are conveniently mounted in the chassis. Accessibility is easy, even with the truck in the working aisle. These time and money saving details are appreciated by both the serviceman and operations manager.

TRANSISTOR CONTROLS

The wear-free PMC/SEM systems ensure: efficient, infinite control from zero to maximum speed; sensitive, smooth acceleration and deceleration; higher efficiency per battery charge; and protection for

the electronic components. These transistor controllers are superior to SCR systems in providing efficient cost-effective performance and torque control. The transistor controllers reduce motor and battery losses and increase the truck's range and cycle time per battery charge.

DRIVE MOTOR

The EWS is available with either a 12-volt or 24-volt motor. Both Class-H high-performance motors are series-wound and open-ventilated for energy efficient, cool operation. Excellent performance, dependability and low-energy consumption are provided through the utilization of quality materials and the matching of the motor to the gear train.

DRIVE UNIT

The truck's drive motor armature shaft gear is coupled directly to

precision-machined, double-reduction spur gears that transfer power to the drive tire. All gears are heat treated, chromium-alloy steel, providing maximum life and dependability. The gears are immersed in an oil bath to reduce friction and wear. A tough, web-reinforced casting protects the gear train which rotates on four tapered roller bearings. The drive tire can be easily removed for routine inspection or replacement by simply removing the wheel hub nuts.

HYDRAULIC SYSTEM

The integral hydraulic power unit is self-contained to eliminate unnecessary oil lines and fittings. The unit consists of an oil reservoir with sight gage and an internally mounted gear-type pump and intake filter screen. The pump is driven by an externally mounted, pump motor with Class-F insulation.

Linde Material Handling

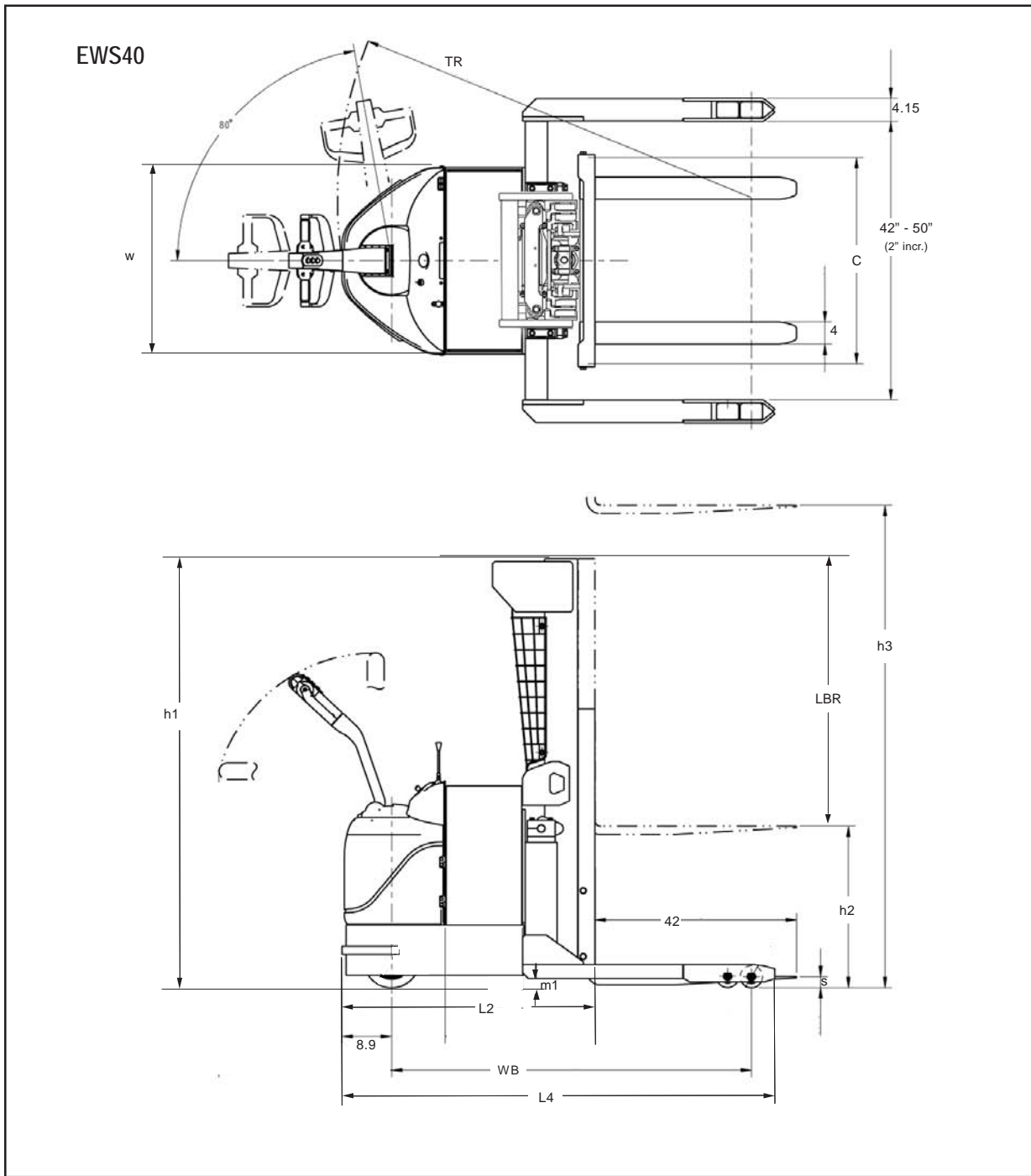
Walkie-Straddle Truck
4,000 lb. Capacity
EWS40 - 12/24 Volts

Manufacturer's Data and Design Characteristics

July 2002

		Manufacturer	Linde		Linde	
Characteristics	1.1	Model designation	EWS40 (12 volts)		EWS40 (24 volts)	
	1.2	Power unit: Electric, Diesel, LP, Other	Electric		Electric	
	1.3	Operation: Walkie, Rider/Stand, Rider/Sit-down	Walkie		Walkie	
	1.4	Load capacity lb (kg)	4,000	(1,814)	4,000	(1,814)
	1.5	Load center Lc in (mm)	24	(610)	24	(610)
Weight	2.1	Weight, including minimum battery* lb (kg)	3,421	(1,552)	3,832	(1,738)
	2.2	Axle load, with load front/rear* lb (kg)	2,520/4,901 (1,143/2,223)		2,342/5,490 (1,062/2,490)	
	2.3	Axle load, without load front/rear* lb (kg)	2,246/1,175 (1,019/533)		2,483/1,349 (1,126/612)	
Wheels & Tires	3.1	Tires front/rear (R = Rubber, P = Poly)	P/P		P/P	
	3.2	Wheels, number front/rear (x = driven)	1 x /4		1 x /4	
	3.3	Tire size, drive (front) in (mm)	10 x 5	(254x127)	10 x 5	(254x127)
	3.4	Tire size, load (rear) in (mm)	4x2.875	(102x73)	4x2.875	(101x73)
Dimensions	4.1	Simple mast	See Mast Table		See Mast Table	
	4.2	Triple mast	See Mast Table		See Mast Table	
	4.3	Carriage, class/width C in (mm)	II/31.0	(II/787)	II/31.0	(II/787)
	4.4	Optional carriage, class/width C in (mm)	II/37.0	(II/940)	II/37.0	(II/940)
	4.5	Wheelbase WB in (mm)	59.1	(1,501)	64.6	(1,641)
	4.6	Load backrest height LBR in (mm)	48	(1,219)	48	(1,219)
	4.7	Total length L4 in (mm)	72.2	(1,834)	77.7	(1,974)
	4.8	Overall width (rear) W in (mm)	33.5	(851)	33.5	(851)
	4.9	Fork lowered height s in (mm)	2.00	(50.8)	2.00	(50.8)
	4.10	Fork dimensions t ₁ xw ₃ in (mm)	1.5x4x42 (38x102x1,067)		1.5x4x42 (38x102x1,067)	
	4.11	Head length L2 in (mm)	39.9	(1,014)	45.4	(1,153)
	4.12	Ground clearance, under load outrigger m1 in (mm)	1.6	(41)	1.6	(41)
	4.13	Turning radius TR in (mm)	68.8	(1,748)	74.4	(1,890)
Performance	5.1	Travel speed, with/without load mph (kmh)	2.5/2.9	(4.02/4.70)	2.5/2.9	(4.02/4.70)
	5.2	Lifting speed, with/without load fpm (mpm)	15/30	(4.6/9.1)	25/40	(7.6/12.2)
	5.3	Lowering speed-lever, with/without load fpm (mpm)	65/55	(19.8/16.8)	65/55	(19.8/16.8)
	5.4	Lowering speed-button, with/without load fpm (mpm)	10/15	(3.1/4.6)	10/15	(3.1/4.6)
Drive	6.1	Steering: power, manual	Manual		Manual	
	6.2	Brake system, mechanical/hydraulic, electric	Mechanical		Mechanical	
	6.3	Parking brake	Fail-safe		Fail-safe	
	6.4	Battery Compartment, L x W - Open Top in (mm)	8.25x31.9	(210x810)	13.8x31.9	(351x810)
	6.5	Voltage V	12		24	
	6.6	Amp hours, recommended Ah	600		510	
	6.7	Battery weight (minimum) lb (kg)	625	(284)	975	(442)
	6.8	Drive motor, 60 min rating hp (kw)	1.3	(0.98)	3.6	(2.7)
	6.9	Drive motor size (diameter) in (mm)	6.63	(168)	6.63	(168)
	6.10	Pump motor size (diameter) in (mm)	4.3	(109)	4.3	(109)
	6.11	Pump motor, rating hp (kw)	4.6	(3.4)	5.4	(4.0)
	6.12	Travel control	PMC		SEM	
	6.13	Speed control	Infinitely Variable		Infinitely Variable	
	6.14	Hydraulic control	Contactor		Contactor	

* 72/155 TSU mast, 37" carriage, 42" forks,



MAST INFORMATION EWS40					
in (mm)	Maximum Collapsed Height	Maximum Fork Height	Free Lift	Overall Extended Height with LBR	Overall Extended Height w/o LBR
Type	h1	h3	h2		
Simple	72 (1,829)	105 (2,667)	5.5 (140)	153 (3,886)	126 (3,200)
	77 (1,956)	115 (2,921)	5.5 (140)	163 (4,140)	136 (3,454)
	83 (2,108)	127 (3,226)	5.5 (140)	175 (4,445)	148 (3,759)
Triple	72 (1,829)	155 (3,937)	* 48 (1,219)	203 (5,156)	176 (4,470)
	77 (1,956)	170 (4,318)	* 53 (1,346)	218 (5,537)	191 (4,851)
	83 (2,108)	188 (4,775)	* 59 (1,499)	236 (5,994)	209 (5,309)

* w.o. LBR

FRAME

Modern-designed componentry utilizes heavy steel plates welded into a rigid unitized structure which results in a frame that will not distort under the most severe operating conditions.

TRU-VIEW MASTS

High visibility mast employs rolled alloy C-channel for maximum strength and chrome-plated pistons. To resist distortion from off-center loading, rugged, welded steel cross-bracing provides a rigid assembly. Permanently sealed roller bearings are used in the mast to provide for off-center loads, friction reduction, and ease of maintenance.

CARRIAGE

The carriage, constructed from alloy steel plates, mounts on large load rollers with antifriction bearings and side thrust rollers.

FORKS

Universal pallet forks. Class II Hook-type mounting is standard.

OUTRIGGERS

The steel outriggers are available in a range of widths. For added service life, the load wheels are mounted in steel housings and protected by tapered, enclosed tips. The outriggers are welded into the mast support members as an integral part of the chassis.

WHEELS AND TIRES

A poly drive tire and tandem poly load wheels are standard.

OPERATOR CONTROL

The multifunction, cast-metal, wrap around control handle provides a wide protected area for the operator's hand. The dual-roller grip control handle governs travel direction and speed. The operator can effortlessly reach the lift/lower lever or use push buttons. The truck's speed and direction are selected by rotating the fluted rollers by hand or thumb. The multifunction roller control includes a spring return-to-neutral feature when released. All the truck's basic controls (lift, lower, horn) can be operated by either a left- or right-handed operator without removing his hands from the roller grips. A reversing switch located at the end of the steering handle will automatically reverse the truck's travel direction if it comes in contact with an object.

BRAKES

Smooth, controlled braking is accomplished when the steering handle is in a vertical or horizontal position. The truck can also be stopped electrically through plugging. When the control handle is released, a spring returns the handle to the vertical position which applies the brake and cuts the travel power. When the brake is applied, a switch is activated which disrupts current to the traction controls. A set of internal expanding brake shoes applies pressure to the brake drum mounted on the drive motor's armature shaft. This design takes advantage of the full gear reduction of the drive unit, providing easier braking and longer lining life. Since the brake is mounted on the external position of the drive motor, routine maintenance and service can be accomplished quickly.

BATTERY COMPARTMENT

No valves, oil lines, fittings, or electrical components are located under the chassis or battery.

STANDARD EQUIPMENT

- Curtis PMC transistor control travel (12V)
- G.E. SEM transistor control travel (24V)
- 12 or 24 volt electrical system
- Non-Articulating drive unit
- Fail-safe brake with power cut-off
- Key Switch
- 48" Load backrest
- 42" forks
- 4" x 3" tandem poly load wheels
- 10 x 5" Poly drive tire
- Safety spring return handle
- Single spool valve with lever and push-button lift and lower
- Impact resistant covers
- Mast screen
- Traction speed reduction above 17.5" lift
- SB175 yellow connector (12V)
- SB175 red connector (24V)
- Battery discharge indicator with lift interrupt (24V)

OPTIONAL EQUIPMENT

- Travel/Back-Up alarm (forks first travel)
- Travel/Back-Up flashing lights
- Hour Meter, BDI Unigage, Unigage with Interrupt (12V)
- Cold storage and corrosion protection
- Battery compartment rollers with side-gates
- G.E. dash display (24V)

Check with dealer/factory for additional equipment availability.

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ANSI: Standard truck meets all applicable mandatory requirements of ANSI/TSD 56.1 standards for powered industrial trucks.
NOTE: Performance data may vary due to motor and system efficiency tolerances. The performance depicted represents nominal values obtained under typical operating conditions. Metric dimensions are in millimeters unless otherwise specified. All metric dimensions are not direct equivalents due to rounding data. The descriptions and specifications included on this data sheet were in effect at the time of printing. Linde Material Handling North America Corporation reserves the right to make improvements and changes in specification or design without notice and without incurring obligation. Please check with your authorized Linde dealer for information on possible updates or revisions.

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