

# **ORDER PICKING**

# narrow aisle turret



The EK-Series



# SYSTEMS APPROACH

# to Warehouse Logistics

INNOVATIVE • ECONOMICAL • RELIABLE

Innovative engineering must incorporate creative design with functionality and maintenance. On the one hand, the vehicles must meet rigorous industrial standards, while on the other they must be flexible enough to meet the space and material transport requirements of the individual customer. Introducing the compact, powerful, maneuverable – and above all adaptable EK series of Man-Up Turret Trucks.

EK 1100, EK 1200, EK 1300, EK 1350, EK 1500, EK 2000.

The perfect solution for unit load storage and individual article order selection. Since the operator rides up with the load to the desired storage location, he is afforded an equally good view of the load and its rack destination. Thanks to a thorough design concept and modular engineering, the adaptation to customer specific transport needs are made simple. The EK series offers optimum space utilization. EK models start with a minimum frame width of only 39.4" and can handle lift heights of over 55 ft. Capacities range from 2425 lbs thru 4400 lbs.

An ergonomically designed vehicle fitted with a spacious operator cabin is built for peak and enduring performance. Cutting edge technology keeps the EK operating at peak performance with minimum maintenance costs. Many different operator style consoles and cabins are available to suit the application.



#### 7 BASE MODELS TO MEET YOUR NEEDS









## EK 1100

Capacity to 2425 lbs.

Lift Heights to 355"

2 Stage or 3 Stage Masts

~AC Technology

48 Volt or 80 Volt

## EK 1200

Capacity to 2645 lbs.

Lift Heights to 394"

2 Stage or 3 Stage Masts

~AC Technology

48 Volt or 80 Volt

### EK 1300

Capacity to 2865 lbs.

Lift Heights to 394"

2 Stage or 3 Stage Masts

~AC Technology

48 Volt or 80 Volt

# EK 1350

Capacity to 3000 lbs.

Lift Heights to 472"

2 Stage or 3 Stage Masts

~AC Technology

80 Volt

# EK 1500

Capacity to 3300 lbs.

Lift Heights to 590"

2 Stage or 3 Stage Masts

~AC Technology

80 Volt

# EK 1500 XL

Capacity to 3300 lbs.
Lift Heights to 670"
2 Stage or 3 Stage Masts
~AC Technology
80 Volt

# EK 2000

Capacity to 4400 lbs.
Lift Heights to 590"
2 Stage or 3 Stage Masts
~AC Technology
80 Volt







# Ergonomical and Comfortable

#### COMFORTABLE • SAFE • EFFICIENT

A comfortable and safe work environment enhances operator efficiency. The spacious cabin, carpet covered walls, thick cushioned floor, and built-in document / tool holders provide the basics and also allow for a large range of movement for the order picking process. The multifunctional control console houses an easy to read graphics display and the easy reach operational controls. The layout of the control center is intuitive and simple to understand. The enclosed secure cabin protects the operator from harm. Naturally the control center can be reached from a standing or sitting position. The control center is positioned to suit the individual operator. An extensive list of available options include a choice of seats with features such as air cushioned, lumbar adjustable support with tilting arm rests, downward folding seat cushion with standing operator back support and more. A large rear cabin window and angled motor compartment give an operator excellent visibility.





#### Options:

- Swivel seat
- ► Air suspension seat
- ► Lengthen cabin (front to rear)
- ▶ Support rail for peripheral equipment
- ➤ Swivel lean out side gates
- ▶Side sliding operator console
- ▶ Cold store cabin Freezer applications



### FOR EVERY REQUIREMENT - THE RIGHT CONSOLE





#### Console with thumb controls

Modern and ergonomic with support stationary handles with thumb controls (standard version)

#### **CONSOLE OPTIONS**





#### Console with twist controls

Modern and ergonomic with rotation controls (standard version)





#### Operation with Joy Stick Controls

Standard Version Select the standard version to suit your operation





#### **Multifunction Control Handle**

Fast operation with single control handle



### Split operation console next

#### to the seat

Clear access for order picking & front walk-thru cabin



- ► PIN-Code-Access
- ▶ Service interval indication
- ► CAN-Bus connection for external input devices
- ▶ Lift height indication with positioning system
- ► Color display (standard -all consoles)







The

specially



SPECIFIC SOLUTIONS FOR DIFFERENT LOAD HANDLING REQUIREMENTS

The Telescopic Fork Attachment can operate in smaller aisles, but must use single sided or skid type pallets and cannot pick up or deposit from the floor.

The 180 degree rotating fork (turret) attachment is the most popular and most flexible attachment. Styles include designs for very heavy duty applications – including very long, wide or heavy loads. We offer a turret attachment that is built to suit the application.



# The Magaziner

designed to suit the individual application

COMPACT • WIDE • NARROW • HIGH

The EK series trucks maximize your storage by providing chassis and attachments specifically built to fill your needs. Short, long, wide, or narrow frames to match your load and aisle requirements. Cabins and chassis are built to exact specifications – so that the best possible space utilization is achieved.

Dual Load Wheel option available to lessen the floor pressure and provide a smoother ride.





# Well protected sophisticated controls

#### **ECONOMICAL** • PRECISE • SERVICE FRIENDLY

All EK series trucks, from the small EK 1100 to the heavy duty EK 2000 are available ~AC controls. The EK 1100 to EK 1300 are available with either 48V or 80V electrical systems, and the larger models are all 80V units. Minimum energy usage, high throughput and a long life cycles are very important. The operational controls are therefore critical. The EK series demonstrates the use of the latest technology available in forklift design, to allow the use of lighter chassis, while actually increasing vehicle stability. This provides the best possible use of energy consumption and maximizes operational cycles, allowing these trucks to operate with smaller batteries – or last longer per battery cycle.



#### Highlights

- ▶ 4th Generation AC-Technology, 40% less heat loss
- ► Micro controller with "Solid State Technology
- ► Fast diagnostics without special tools or proprietary software.

#### Options:

►GSG2-Controller for linear speed profiles with weight acquisition and programming of different lift cut out heights

#### ▶ RFID-Technology

Diagnosis available via Global Satellite Modem

#### OPTIMUM PROTECTION AND ACCESSIBILITY





## ORDER PICKING NARROW AISLE TURRET TRUCK WITH AC-TECHNOLOGY

EK 1100 EK 1200 EK 1300 EK 1350

Load capacity	Q	2425 lbs	2645 lbs	2865 lbs	3000 lbs	
Load center	С	24"	24"	24"	24"	
Power supply		Electrical	Electrical	Electrical	Electrical	
Operator type		Stand-on/Rider seated	Stand-on/Rider seated	Stand-on/Rider seated	Stand-on/Rider seated	
Tires		Polyurethane	Polyurethane	Polyurethane	Polyurethane	
Number of wheels, drive/load side (x = driven)		1x/2	1x/2	1x/2	1x/2	
Driver`s cabin lowered platform height	h8	15.7"	15.7"	15.7"	15.7"	
Inside height of cabin (standard)		83.9"	83.9"	83.9"	83.9"	
Lift height	h3G+s	see table	see table	see table	see table	
Supplementary lift	h2	74.8"	74.8"	74.8"	74.8"	
Picking height	h9	h12 + 63"	h12 + 63"	h12 + 63"	h12 + 63"	
Fork dimensions		1.6"/4.7"	1.6"/4.7"	1.6"/4.7"	1.6"/4.7"	
Fork length		32" - 52"	32" - 52"	32" - 52"	32" - 52"	
Width across forks ( on 33.5" fork carriage )	В3	19.9" - 31.3"	19.9" - 31.3"	19.9" - 31.3"	19.9" - 31.3"	
Height of fork, lowered position	S	3.1"	3.1"	3.1"	3.1"	
Overall length with fork carrier width 33.5"	L	128.9" - 132.5" - 136.4"	131.3" - 134.8" - 138.8"	133.9" - 137.4" - 141.3"	132.9" - 136.4" - 140.4"	
Overall length with fork carrier width 22.8"	L	123.6" - 127.2" - 131.1"	126.0" - 129.5" - 133.5"	128.5" - 132.1" - 136.0"	127.6" - 131.1" - 135.0"	
Support boom length (standard)	M1S	18.1" - 21.7" - 25.6"	18.1" - 21.7" - 25.6"	18.1" - 21.7" - 25.6"	18.1" - 21.7" - 25.6"	
Overhang	X/X1	14.0"/10.0"	14.0"/10.0"	14.0"/10.0"	14.4"/10.0"	
Overall width (standard in 1.97" increments)	В	39.4" - 66.9"	47.2" - 66.9"	47.2" - 66.9"	47.2" - 66.9"	
Height of mast collapsed	h1	see table	see table	see table	see table	
Height of cabin extended	h6	see table	see table	see table	see table	
Height of mast extended	h4	see table	see table	see table	see table	
Turning radius	Wa	81.9"	84.4"	87.0"	85.4"	
Aisle width	Ast	47.2" - 78.7"	55.1" - 78.7"	55.1" - 78.7"	55.1" - 78.7"	
Travel speed laden/unladen		7.5 / 7.5 mph	7.5 / 7.5 mph	7.5 / 7.5 mph	7.5 / 7.5 mph	
Lift speed laden/unladen		63 / 78 fpm*	61 / 78 fpm*	102 / 110 fpm*	96 / 102 fpm*	
Lowering speed laden/unladen (adjustable limits)		89 / 89 fpm	89 / 89 fpm	89 / 89 fpm	89 / 89 fpm	
Reach speed laden/unladen (adjustable limits)		89 / 89 fpm	89 / 89 fpm	89 / 89 fpm	89 / 89 fpm	
Weight including battery		10,800 - 12,345 lbs.	10,912 - 12,785 lbs.	11,140 - 13,010 lbs.	12,785 - 15,215 lbs.	
Axle load with load, drive side/load side	lbs	3,527/9,700; 4,078/10,692	3,637/9,920; 4,188/11,243	3,747/10,250; 4,409/11,463	3,968/11,684; 4,519/13,558	
Axle load without load, drive side/load side	lbs	4,629/6,172; 5,291/7,054	4,739/6,172; 5,401/7,385	4,960/6,173; 5,621/7,385	5,291/7,495; 5,952/9,259	
Tires, number, drive side/load side		1/2	1/2	1/2	1/2	
Tires dimension drive side		13.5"/5.5"	13.5"/5.5"	13.5"/5.5"	13.5"/5.5"	
Tires dimension load side		13.5"/5.5"	13.5"/5.5"	13.5"/5.5"	14.8"/7.0"	
Wheel base	у	70.1"	72.6"	75.2"	74.0"	
Ground clearance	m2	1.6"	1.6"	1.6"	1.6"	
Operating brake		electro-magnetic	electro-magnetic	electro-magnetic	electro-magnetic	
Parking brake		dead man's brake	dead man's brake	dead man's brake	dead man's brake	
Battery		Lead Acid	Lead Acid	Lead Acid	Lead Acid	
Battery voltage/capacity		48 Volt/775 Ah**/***	48 Volt/930 Ah**/***	80 Volt/620 Ah***	80 Volt/465 Ah***	
Battery weight		2,465 lbs.	2,885 lbs.	3.3435 lbs.	2,730 lbs.	
Drive motor		5,0 kW	5,0 kW	7,0 kW	7,0 kW	
Lift motor		12,5 kW*	12.5 kW*	21,0 kW*	21,0 kW*	
Drive/lift/steer controls (brushless motors)t		~AC-Controls / infinite variable	~AC-Controls / infinite variable	~AC-Controls / infinite variable	~AC-Controls / infinite variable	
Drive/ inty steel controls (brusilless filotors)t		·	AC-CONTROLS / IIIIIIIILE VARIABLE	,	AC-CONTROLS / ITHITING VARIABLE	
		* Higher lift speeds on request		** Also available in 80 V		

#### EK 1500 EK 1500 XL EK 2000

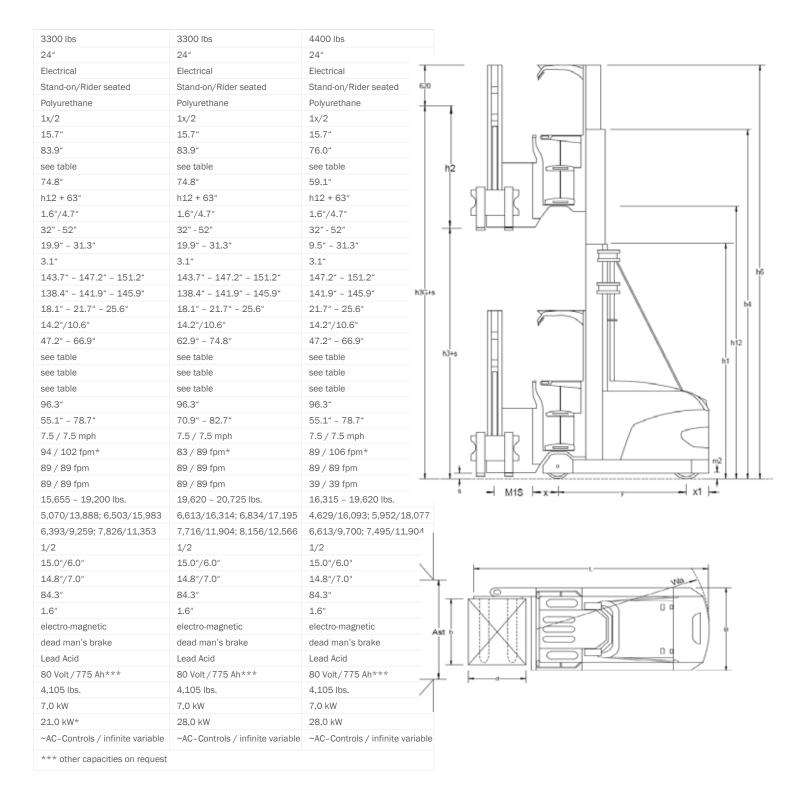




Table 1: Build and lift heights of duplex lift mast with swivel fork, Supplementary lift 74.8" or 90.5"

Total lift height with 74.8" suppl. lift (h2)	Total lift height with 90.5" suppl. lift	Cabin lift height	Raised platform height	Extended height cabin**	Collapsed height EK 1100 to 1300 two-stage-mast*	Collapsed height EK 1350/1500 two-stage-mast*	Collapsed height EK 1500 XL two-stage-mast	Collapsed height EK 2000 two-stage-mast***
h3G + s	h3G + s	h3 + s	h12	h6	h1	h1	h1	h1
in	in	in	in	in	in	in	in	in
173.2"	188.9"	98.4"	111.0"	197.6"	102.4"	-	-	-
192.9"	208.6"	118.1"	130.7"	217.3"	108.1"	-	-	-
212.6"	228.3"	137.8"	150.4"	237.0"	117.9"	115.0"	-	124.8"
232.3"	248.0"	157.5"	170.1"	256.7"	127.8"	124.8"	-	134.6"
252.0"	267.7"	177.2"	189.8"	276.4"	137.6"	134.6"	-	144.5"
271.7"	287.4"	196.8"	209.4"	296.1"	147.4"	144.5"	-	154.3"
291.3"	307.1"	216.5"	229.1"	315.7"	157.3"	154.3"	-	164.2"
311.0"	326.8"	236.2"	248.8"	335.4"	167.1"	164.2"	-	174.0"
330.7"	346.4"	255.9"	268.5"	355.1"	177.0"	174.0"	-	183.9"
350.4"	366.1"	275.6"	288.2"	374.8"	186.8"	183.9"	-	193.7"
370.1"	385.8"	295.3"	307.9"	401.6"	196.7"	193.7"	-	203.5"
389.8"	405.5"	315.0"	327.6"	414.2"	206.5"	203.5"	-	213.4"
409.4"	425.2"	334.6"	347.2"	433.9"	-	213.4"	-	223.2"
429.1"	444.9"	354.3"	366.9"	453.5"	-	223.2"	-	233.1"
448.8"	464.6"	374.0"	386.6"	473.2"	-	233.1"	-	242.9"
468.5"	484.2"	393.7"	406.3"	492.9"	-	242.9"	-	252.8"
488.2"	503.9"	413.4"	426.0"	512.6"	-	252.8"	-	262.6"
507.9"	523.6"	433.1"	445.7"	532.3"	-	262.6"	-	272.4"
527.6"	543.3"	452.7"	465.3"	552.0"	-	272.4"	-	282.3"
547.2"	563.0"	472.4"	485.0"	571.7"	-	282.3"	292.1"	-
566.9"	582.7"	492.1"	504.8"	591.3"	-	-	302.0"	-
586.6"	602.4"	511.8"	524.4"	611.0"	-	-	311.8"	-
606.3"	622.0"	531.5"	544.1"	630.7"	-	-	321.7"	-
626.0"	641.8"	551.2"	563.8"	650.4"	-	-	331.5"	-

<sup>\*</sup>EK 1100 maximum collapsed height of 187":

other heights on request.

#### Table 2: Build and lift heights of triplex lift mast with swivel fork, Supplementary lift 74.8" or 90.5"

Total lift height with 74.8" suppl. lift	Total lift height with 90.5" suppl. lift	Cabin lift height	Raised platform height	Extended height cabin**	Collapsed height EK 1100 to 1300 three-stage-mast*	Collapsed height EK 1350 / 1500 three-stage-mast	Collapsed height EK 1500 XL three-stage-mast
h3G + s	h3G + s	h3 + s	h6	h6	h1	h1	h1
in	in	in	in	in	in	in	in
222.4"	238.2"	147.6"	160.2"	239.0"	102.4"	-	-
252.0"	267.7"	177.2"	189.8"	268.5"	108.1"	-	-
281.5"	297.2"	206.7"	219.3"	298.0"	117.9"	115.0"	-
311.0"	326.8"	236.2"	248.8"	327.6"	127.8"	124.8"	-
340.6"	356.3"	265.7"	278.3"	357.1"	137.6"	134.6"	-
370.1"	385.8"	295.3"	307.9"	386.6"	147.4"	144.5"	-
411.4"	415.4"	324.8"	337.4"	416.1"	157.3"	154.3"	-
429.1"	444.9"	354.3"	366.9"	445.7"	-	164.2"	-
458.7"	474.4"	383.9"	396.5"	475.2"	-	174.0"	-
488.2"	503.9"	413.4"	426.0"	504.7"	-	183.9"	193.7"
517.7"	533.5"	442.9"	455.5"	534.3"	-	193.7"	203.5"
547.2"	563.0"	472.4"	485.0"	563.8"	-	203.5"	213.4"
576.8"	592.5"	502.0"	514.6"	593.3"	-	213.4"	223.2"
606.3"	622.0"	531.5"	544.1"	622.8"	-	-	233.1"
635.8"	651.6"	561.0"	573.6"	652.4"	-	-	242.9"

\*EK 1100 maximum collapsed height of 137.6"; The overall length with triplex mast: EK 1100/1200/1300 is 1.4" longer;

#### Table 3: Aisle width depending on load/pallet dimensions

Load dimension		Diatassa hatusaa laadaww		EK 1100	EK 1200 / 1300	EK 1350	EK 1500 / 2000
depth	width	Distance between loads**	Boom length	Transfer aisle width*	Transfer aisle width*	Transfer aisle width*	Transfer aisle width*
b	d	Ast	M1S				
in	in	in	in	in	in	in	in
60"	48"	80"	26"	145.0"	145.6"	148.8"	157.8"
48"	32"	66"	18"	136.2"	138.2"	140.8"	149.6"
48"	40"	66"	22"	139.4"	141.7"	143.9"	153.1"
48"	48"	66"	26"	142.9"	145.3"	147.5"	156.7"
40"	32"	58"	18"	133.1"	135.4"	137.6"	146.9"
40"	40"	58"	22"	136.2"	138.6"	141.2"	150.4"
40"	48"	58"	26"	140.2"	142.1"	144.7"	153.9"
32"	32"	55"	18"	132.3"	134.6"	137.2"	146.1"
32"	40"	55"	22"	135.8"	137.8"	140.4"	149.6"
32"	48"	55"	26"	139.4"	141.7"	143.9"	153.5"
48"	60"	68"	32"	155.9"	158.6"	161.1"	169.5"

<sup>\*</sup>Transfer aisle width without load and 22.8" fork carriage width, with mechanical guidance add + 12", with wire guidance add + 32" recommended. Aisle width (Ast) for mechanical guidance and duplex mast truck; \*\* EK 2000 add + 2" Reduced truck lengths available upon request.

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<sup>\*</sup>EK 1350 maximum collapsed height of 242.9"; other collapsed & lift heights on request.

<sup>\*\*</sup>Extended height with optional 90.5" suppl. lift add + 15.7"; \*\*\*EK 2000 has a reduced total lift height with a supplementary lift of 59.1";

<sup>\*\*</sup> extended height with optional 90.5" suppl. lift add + 15.7"; other collapsed & lift heights on request. EK 1350/1500 is 4.9" longer; EK 1350 collapsed height > 164" is the same length as the EK 1500.