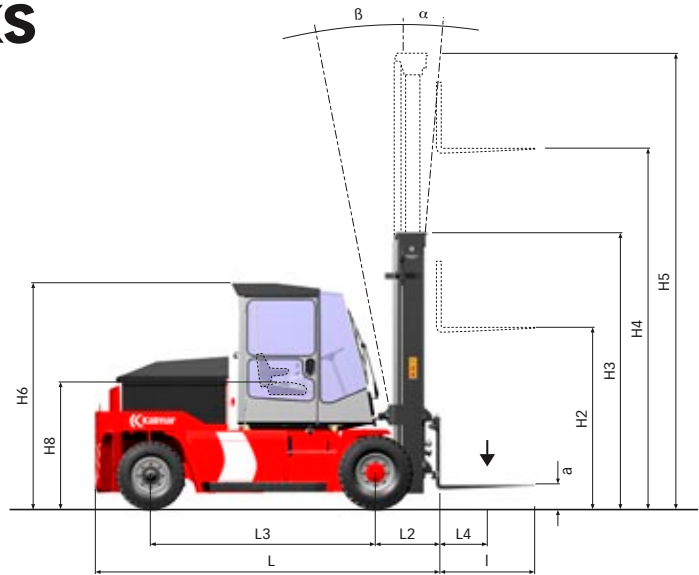
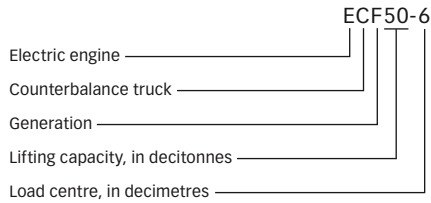


LIGHT FORKLIFT TRUCKS 5 – 9 TONNES.
TECHNICAL INFORMATION
KALMAR ECF50-90L, BATTERY.



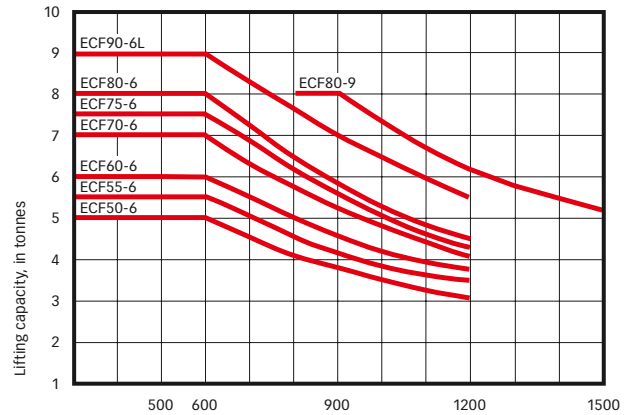
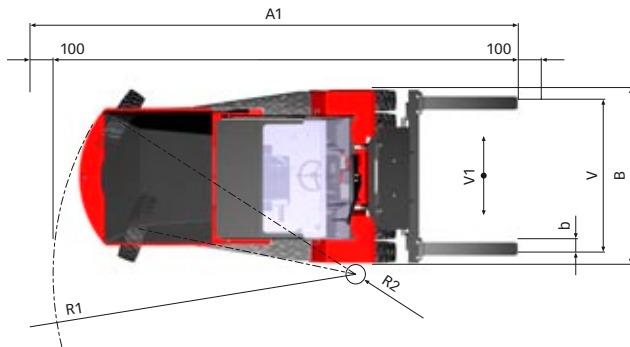
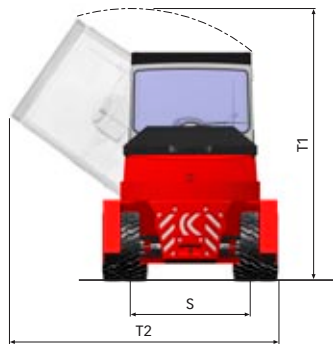
GENERATION F ELECTRICAL LIFT TRUCKS 5 – 9 TONNES

MODEL DESIGNATION



DIMENSIONS				ECF50-6	ECF55-6	ECF60-6	ECF70-6	ECF75-6	ECF80-6	ECF80-9	ECF90-6L		
Lifting	Lift capacity	Rated	kg	5000	5500	6000	7000	7500	8000	8000	9000		
		Load centre	L4	mm	600	600	600	600	600	600	900	600	
Dimensions	Truck	Truck length	L	mm	3285	3285	3770	3770	4030	4030	4075	4120	
		Truck width	B	mm	1550	1550	2000	2000	2000	2000	2000	2000	
		Height, basic machine, Spirit Delta	H6	mm	2590	2590	2590	2590	2590	2590	2570	2570	
		Height, basic machine, Spirit Delta Space	H6	mm	-	-	3090	3090	3090	3090	3090	3070	3070
		Height, basic machine, FlexCab	H6	mm	2690	2690	2690	2690	2690	2690	2670	2670	
		Seat height Spirit Delta/FlexCab	H8	mm	1440	1440	1440	1440	1440	1440	1440	1440	
		Seat height Spirit Delta Space	H8	mm	-	-	1940	1940	1940	1940	1940	1940	
		Distance between centre of front axle – front face of fork arm	L2	mm	665	665	730	730	790	790	750	795	
		Wheelbase	L3	mm	2100	2100	2450	2450	2600	2600	2800	2800	
		Track (c-c) front – rear	S	mm	1240 – 1195	1240 – 1195	1500 – 1360	1500 – 1360	1500 – 1360	1500 – 1360	1500 – 1360	1500 – 1360	
		Turning radius, outer	R1	mm	2980	2980	3350	3350	3600	3600	3700	3700	
		Turning radius, inner	R2	mm	120	120	150	150	250	250	250	250	
		Ground clearance, min.		mm	160	160	160	160	160	160	160	160	
		Height when tilting cab, max. Spirit Delta	T1	mm	3050	3050	3050	3050	3050	3050	3050	3050	
		Width when tilting cab, max. Spirit Delta	T2	mm	3100	3100	3100	3100	3100	3100	3100	3100	
		Height when tilting cab, max. Spirit Delta Space	T1	mm	-	-	3300	3300	3300	3300	3300	3300	
		Width when tilting cab, max. Spirit Delta Space	T2	mm	-	-	3200	3200	3200	3200	3200	3200	
		Height when tilting cab, max. FlexCab	T1	mm	3150	3150	3150	3150	3150	3150	3150	3150	
		Width when tilting cab, max. FlexCab	T2	mm	3150	3150	3150	3150	3150	3150	3150	3150	
		Min. aisle width for 90° stacking with forks	A1	mm	4945	4945	5430	5430	5695	5695	6455	5900	
Standard duplex mast	Lifting height	H4	mm	3500	3500	3500	3500	3500	3500	3500	3500		
	Mast height, min.	H3	mm	2625	2625	2625	2625	2935	2935	2935	2935		
	Mast height, max.	H5	mm	4500	4500	4500	4500	4660	4660	4660	4660		
	Mast tilting, forward – backward*	$\alpha - \beta$	°	5 – 10	5 – 10	5 – 10	5 – 10	5 – 10	5 – 10	5 – 10	5 – 10		
Forks	Ground clearance, min.		mm	170	170	170	170	170	170	170	170		
	Width	b	mm	150	150	150	150	150	150	200	200		
	Thickness	a	mm	60	60	60	60	60	60	60	60		
	Length of fork arm	l	mm	1200	1200	1200	1200	1200	1200	1800	1200		
	Width across fork arms, max.	V	mm	1400	1400	1900	1900	1900	1900	-	1900		
	Width across fork arms, min.	V	mm	420	420	420	420	420	420	-	520		
	Sideshift \pm at width across fork arms	V1 – V	mm	250 – 910	250 – 910	375 – 1160	375 – 1160	375 – 1160	375 – 1160	-	375 – 1210		
Weight	Service weight	With battery	kg	7600	8000	8900	9900	10400	10800	11800	11200		
		Without battery	kg	5300	5700	6600	7000	7000	7400	8100	7500		
	Axle load front	Unloaded	kg	4400	4400	4600	4600	5200	5200	5500	5300		
		At rated load	kg	12450	13300	14000	15600	16900	17600	18400	19100		
Axle load back	Unloaded	kg	3900	4300	4300	5000	5200	5500	6200	6000			
	At rated load	kg	850	900	900	1000	1000	1100	1300	1200			
Wheels, brakes, steering	Wheels/tyres	Type, front – rear		Pneumatic – Pneumatic									
		Dimensions, front – rear	inch	315/70-15 – 28x9-15				8,25x15 – 8,25x15					
		Number of wheels, front – rear (*driven)		2* – 2				4* – 2					
		Pressure	MPa	1,0 – 0,9				0,85 – 0,85					
	Steering system	Type – manoeuvring		Hydraulic servo – Steering wheel									
	Service brake system	Type – affected wheels		Oil cooled disc brakes (Wet disc brakes – drive wheels)									
Parking brake system		Type – affected wheels		Dry, spring activated disc brake – drive wheels									
Misc.	Hydraulic pressure	Max.	MPa	17,5	17,5	19,5	19,5	19,5	19,5	19,5	19,5		
	Hydraulic fluid volume		l	125	125	155	155	155	155	155	155		

* Spirit Delta Space, backward = 5°



Load centre, mm

1. Full lifting capacity up to 4 m lifting height with duplex/duplex free lift/triplex mast and fork carriage with side shift/fork positioning. Applies to ECF50-6 to ECF90-6L, except for ECF80-9
2. Full lifting capacity up to 4 m lifting height with duplex mast and FEM fork carriage. Only applies to ECF80-9.

DRIVE TRAIN			ECF50-6	ECF55-6	ECF60-6	ECF70-6	ECF75-6	ECF80-6	ECF80-9	ECF90-6L
Drive train	Engine	Drive axle – type	Differential and hub reduction							
		Drive motor, hourly capacity	2×11							
		Speed control, principle – number of steps	High frequency MOSFET, AC – Stepless							
		Pump motor, hourly capacity – duty factor	2×24 – 15							
		Pump control, principle – number of steps	High frequency MOSFET, AC – Stepless							
Battery	Dimension (W×H×L)	mm	1295×780×845		1495×780×990			1495×780×1190		
	Capacity at 5h discharging – voltage	Ah – V	940 – 80		1240 – 80		1440 – 80		1550 – 80	
	Max charging current – voltage	A – V	175 – 80		225 – 80		250 – 80		300 – 80	
	Battery weight	kg	2300		2900		3400		3700	

PERFORMANCE				ECF50-6	ECF55-6	ECF60-6	ECF70-6	ECF75-6	ECF80-6	ECF80-9	ECF90-6L
Performance	Lifting speed	Unloaded	m/s	0,40	0,40	0,40	0,40	0,40	0,40	0,40	0,40
		At rated load	m/s	0,35	0,35	0,35	0,35	0,35	0,35	0,35	0,35
	Lowering speed	Unloaded	m/s	0,45	0,45	0,45	0,45	0,45	0,45	0,45	0,45
		At rated load	m/s	0,50	0,50	0,50	0,50	0,50	0,50	0,50	0,50
	Travelling speed, f/r	Unloaded	km/h	18	18	17	17	16	16	15	15
		At rated load	km/h	16	16	15	15	14	14	13	13
Gradeability	Max	unloaded	%	56	53	51	46	42	41	37	38
		at rated load	%	32	30	28	25	23	22	21	20
	At 2 km/h	unloaded	%	42	40	39	36	33	32	29	30
		at rated load	%	25	23	22	20	18	17	16	16
Drawbar pull	Max	kN	40	40	40	40	40	40	40	40	
Noise	Noise level according to EN12053	LpAZ (inside) Spirit Delta	dB(A)	58	58	58	58	58	58	58	58
		LpAZ (inside) Spirit Delta Space	dB(A)	58	58	58	58	58	58	58	58
		LpAZ (inside) FlexGuard	dB(A)	<70	<70	<70	<70	<70	<70	<70	<70
		LpAZ (inside) FlexCab	dB(A)	<70	<70	<70	<70	<70	<70	<70	<70
	Noise level according to 2000/14/EC	LwAZ (outside)	dB(A)	92	92	92	92	92	92	92	92

FOUR REASONS TO CHOOSE KALMAR.

1 / COST OVER LIFETIME

Kalmar offers the best cost over lifetime for its customers. Modern and innovative technology together with lasting equipment and comprehensive service ensures Kalmar increases its customers' productivity. Every day.



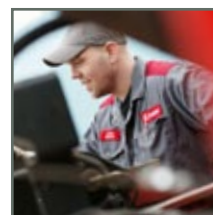
2 / GLOBAL NETWORK

Kalmar invests in its sales and service network. Thus Kalmar is a reliable and trustworthy supplier with ability to serve demanding customers.



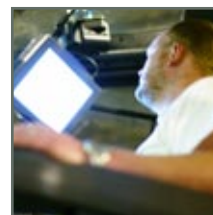
3 / LOCAL SERVICE

Kalmar practises innovative service development. Because of Kalmar's local customer service strategy, Kalmar knows its customers' local conditions, and can provide efficient and effective service in every location.



4 / CONTINUOUS DEVELOPMENT

Kalmar has not stopped at the top, but continuously improves its offering. New services as well as investments in automation and environmentally friendly solutions work for our customers benefit.



Kalmar Industries AB

SE-341 81 Ljungby, Sweden

tel. +46 372 260 00, fax. +46 372 263 90

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