

Technical sheet :

# **EMA II 20 HD-2**

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Technical characteristics		Metric		Imperial	
1.1	Manufacturer		Manitou		Manitou
1.2	Model Name		EMA II 20 HD-2		EMA II 20 HD-2
1.3	Power source		Electrical		Electrical
1.4	Operator type		Seated		Seated
1.5	Max. capacity	Q	2000 kg		4409 lb
1.6	Load center of gravity	c	500 mm		20 in
1.8	Load distance, centre of drive axle to fork	x	278 mm		11 in
1.9	Wheelbase	y	1745 mm		69 in
Weight					
2.1	Service weight		8700 kg		19180 lb
2.2	Weight on front axle (laden) / rear axle (laden)		6330 kg / 4080 kg		13955 lb / 8995 lb
2.3	Weight on front axle (Unladen) / rear axle (Unladen)		3480 kg / 5220 kg		7672 lb / 11508 lb
Wheels					
3.1	Tires type		Solid tires		Solid tires
3.2	Dimensions of front wheels		412 x 178		412 x 178
3.3	Dimensions of rear wheels		457 x 178		457 x 178
3.5	Number of front wheels / rear wheels		2 / 2		2 / 2
3.5.2	Number of drive wheels		2		2
3.6	Front wheel gauge	b10	1110 mm		44 in
3.7	Rear wheel gauge	b11	1370 mm		54 in
Dimensions					
4.7	Height of overhead guard (cabin)	h6	2260 mm		89 in
4.8	Seat height/stand height	h7	1200 mm		47 in
4.19	Overall length	l1	3710 mm		146 in
4.20	Length to face of forks	l2	2560 mm		101 in
4.21	Overall width	b1	1350 mm		53 in
4.22	Forks section / width / length	s / e / l	40 mm x 125 mm x 1150 mm		2 in x 5 in x 45 in
4.23	Fork carriage ISO 2328 (class/form) A/B		2		2
4.24	Fork carriage width	b3	860 mm		34 in
4.31	Ground clearance below mast	m1	50 mm		2 in
4.32	Ground clearance at centre of wheelbase	m2	130 mm		5 in
4.33	Aisle Width for pallets 1000 x 1200 crossways	Ast	2000 mm		79 in
4.34	Aisle width for 800 x 1200 pallet lengthways	Ast	2200 mm		87 in
Performances					
5.1	Travel speed (laden / unladen)		8.50 km/h-9 km/h		5 mph-6 mph
5.2	Lifting speed (laden / unladen)		0.35 m/s-0.45 m/s		1 ft/s-1 ft/s
5.3	Lowering speed (laden / unladen)		0.40 m/s-0.36 m/s		1 ft/s-1 ft/s
5.7	Gradeability (laden / unladen)		6 % / 8 %		6 % / 8 %
5.10	Service brake		Hydraulic		Hydraulic
Engine					
6.1	Drive motor rating S2 60 min		10 kW		10 kW
6.2	Lift motor rating at S3 15%		9 kW		9 kW
6.3	Battery according to DIN 43531/35/36 A, B, C		DIN 43595		DIN 43595
6.4	Battery voltage / capacity		48 V / 930 Ah		48 V / 930 Ah
6.5	Battery weight (+/- 5%)		1300 kg		2866 lb
Miscellaneous					
8.1	Type of drive control		Mosfet AC speed controller		Mosfet AC speed controller
8.2	Working hydraulic pressure for attachments		200 bar		2901 PSI
8.3	Oil flow rate for attachments		25 l/min		7 US gpm
8.4	Measured/guaranteed mean noise level at the ear of the operator		< 73 dB		< 73 dB
8.4	Sound level at the driver's ear according to DIN 12 053		73 dB		73 dB

## EMA II 20 HD-2 - Dimensional drawing



# Characteristics of masts and residual capacities

Free Lift Triplex (FLT)		FLT 55	FLT 60	FLT 66	FLT 76	FLT 80	FLT 86	FLT 90	FLT 100	FLT 106
Mast/fork carriage tilt, forward	°	1	1	1	1	1	1	1	1	1
Mast/fork carriage tilt, backward	°	3	3	3	3	3	3	3	3	3
h1 - Mast lowered height	in (mm)	108.3 (2750)	114.2 (2900)	124 (3150)	141.3 (3590)	146.5 (3720)	158.3 (4020)	163.4 (4150)	180.7 (4590)	189.8 (4820)
h2 - Mast free lift	in (mm)	76 (1930)	81.9 (2080)	91.7 (2330)	109.1 (2770)	114.2 (2900)	126 (3200)	131.1 (3330)	148.4 (3770)	157.5 (4000)
h3 - Mast lifting height	in (mm)	216.5 (5500)	236.2 (6000)	259.8 (6600)	300 (7620)	315.4 (8010)	339 (8610)	354.3 (9000)	394.5 (10020)	415.7 (10560)
h4 - Mast extended height	in (mm)	144.9 (3680)	268.9 (6830)	292.5 (7430)	332.7 (8450)	348 (8840)	371.7 (9440)	387 (9830)	433.1 (11000)	454.3 (11540)
Residual capacity with integrated side shift at max height	lb (kg)	3307 (1500)	3307 (1500)	3197 (1450)	3086 (1400)	2976 (1350)	2866 (1300)	2756 (1250)	2205 (1000)	1874 (850)



**Head Office**

B.P. 249 - 430 rue de l'Aubinière

44150 Ancenis Cedex - France

Tel: +33 (0)2 40 09 10 11 - Fax: +33 (0)2 40 09 10 97

[www.manitou.com](http://www.manitou.com)



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