

Technical sheet :

EMA II 20 HD-2



 **MANITOU**
HANDLING YOUR WORLD

| 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 |
|---|---------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|---------------|---------------|
| α - Mast/fork camiage tilt, forward | ° | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| β - Mast/fork camiage 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 heigh | lb (kg) | 3307 (1500) | 3307 (1500) | 3197 (1450) | 3086 (1400) | 2976 (1350) | 2866 (1300) | 2756 (1250) | 2205 (1000) | 1874 (850) |

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