Technical sheet:

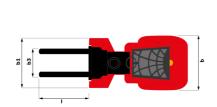
## **EMA II 20 HD-2**

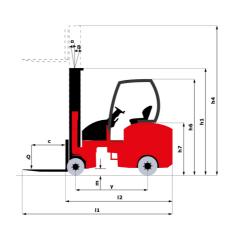




|          |                                                                 |            | EMA II 20 HD-2 Created on July 3, 2025 at 7.52 PM UTC |                            |  |  |  |
|----------|-----------------------------------------------------------------|------------|-------------------------------------------------------|----------------------------|--|--|--|
|          | Technical characteristics                                       |            | Metric                                                | Imperial                   |  |  |  |
| 1.1      | Manufacturer                                                    |            | Manitou                                               | Manitou                    |  |  |  |
| 1.2      | Model Name                                                      |            | EMA II 20 HD-2                                        | EMA II 20 HD-2             |  |  |  |
| .3       | Power source                                                    |            | Electrical                                            | Electrical                 |  |  |  |
| .4       | Operator type                                                   |            | Seated                                                | Seated                     |  |  |  |
| .5       | Max. capacity                                                   | Q          | 2000 kg                                               | 4409 lb                    |  |  |  |
| .6       | Load center of gravity                                          | C          | 500 mm                                                | 20 in                      |  |  |  |
| .8       | Load distance, centre of drive axle to fork                     | X          | 278 mm                                                | 11 in                      |  |  |  |
| .9       | Wheelbase                                                       | У          | 1745 mm                                               | 69 in                      |  |  |  |
|          | Weight                                                          |            |                                                       |                            |  |  |  |
| .1       | Service weight                                                  |            | 8700 kg                                               | 19180 lb                   |  |  |  |
| .2       | Weight on front axle (laden) / rear axle (laden)                |            | 6330 kg / 4080 kg                                     | 13955 lb / 8995 lb         |  |  |  |
| .3       | Weight on front axle (Unladen) / rear axle (Unladen)            |            | 3480 kg / 5220 kg                                     | 7672 lb / 11508 lb         |  |  |  |
|          | Wheels                                                          |            | 5 155 mg / 5225 mg                                    | 101210, 1100010            |  |  |  |
| .1       | Tires type                                                      |            | Solid tires                                           | Solid tires                |  |  |  |
| .2       | Dimensions of front wheels                                      |            | 412 x 178                                             | 412 x 178                  |  |  |  |
| .3       | Dimensions of rear wheels                                       |            | 457 x 178                                             | 457 x 178                  |  |  |  |
| .5       | Number of front wheels / rear wheels                            |            | 2/2                                                   | 2/2                        |  |  |  |
| 5.2      | Number of drive wheels                                          |            | 2                                                     | 2                          |  |  |  |
| .6       | Front wheel gauge                                               | b10        | 1110 mm                                               | 44 in                      |  |  |  |
| .7       | Rear wheel gauge                                                | b10        | 1370 mm                                               | 54 in                      |  |  |  |
| .,       | Dimensions                                                      | 011        | 1370 11111                                            | 34 III                     |  |  |  |
| .7       | Height of overhead quard (cabin)                                | h6         | 2260 mm                                               | 89 in                      |  |  |  |
| .8       | Seat height/stand height                                        | h7         | 1200 mm                                               | 47 in                      |  |  |  |
| .o<br>19 | Overall length                                                  | II7<br>I1  | 3710 mm                                               | 47 III                     |  |  |  |
| 20       | Length to face of forks                                         | 12         | 2560 mm                                               | 140 III                    |  |  |  |
| 21       | Overall width                                                   | b1         | 1350 mm                                               | 53 in                      |  |  |  |
| 22       | Forks section / width / length                                  | s / e / l  | 40 mm x 125 mm x 1150 mm                              | 2 in x 5 in x 45 in        |  |  |  |
|          | ·                                                               | 5/6/1      | 40 mm x 123 mm x 1130 mm                              | 2 111 X 3 111 X 43 111     |  |  |  |
| 23       | Fork carriage ISO 2328 (class/form) A/B                         | <b>b</b> 2 | 860 mm                                                |                            |  |  |  |
| 24       | Fork carriage width                                             | b3         |                                                       | 34 in                      |  |  |  |
| 31       | Ground clearance below mast                                     | m1         | 50 mm                                                 | 2 in                       |  |  |  |
| 32       | Ground clearance at centre of wheelbase                         | m2         | 130 mm                                                | 5 in                       |  |  |  |
| 33       | Aisle Width for pallets 1000 x 1200 crossways                   | Ast        | 2000 mm                                               | 79 in                      |  |  |  |
| 34       | Aisle width for 800 x 1200 pallet lengthways                    | Ast        | 2200 mm                                               | 87 in                      |  |  |  |
| _        | Performances                                                    |            | 0.501 41.01 41                                        | 5 1 6 1                    |  |  |  |
| .1       | Travel speed (laden / unladen)                                  |            | 8.50 km/h-9 km/h                                      | 5 mph-6 mph                |  |  |  |
| .2       | Lifting speed (laden / unladen)                                 |            | 0.35 m/s-0.45 m/s                                     | 1 ft/s-1 ft/s              |  |  |  |
| .3       | Lowering speed (laden / unladen)                                |            | 0.40 m/s-0.36 m/s                                     | 1 ft/s-1 ft/s              |  |  |  |
| .7       | Gradeability (laden / unladen)                                  |            | 6 % / 8 %                                             | 6 % / 8 %                  |  |  |  |
| 10       | Service brake                                                   |            | Hydraulic                                             | Hydraulic                  |  |  |  |
|          | Engine                                                          |            |                                                       | 40.111                     |  |  |  |
| .1       | Drive motor rating S2 60 min                                    |            | 10 kW                                                 | 10 kW                      |  |  |  |
| .2       | Lift motor rating at S3 15%                                     |            | 9 kW                                                  | 9 kW                       |  |  |  |
| .3       | Battery according to DIN 43531/35/36 A, B, C                    |            | DIN 43595                                             | DIN 43595                  |  |  |  |
| .4       | Battery voltage / capacity                                      |            | 48 V / 930 Ah                                         | 48 V / 930 Ah              |  |  |  |
| .5       | Battery weight (+/- 5%)                                         |            | 1300 kg                                               | 2866 lb                    |  |  |  |
|          | Miscellaneous                                                   |            |                                                       |                            |  |  |  |
| .1       | Type of drive control                                           |            | Mosfet AC speed controller                            | Mosfet AC speed controller |  |  |  |
| .2       | Working hydraulic pressure for attachments                      |            | 200 bar                                               | 2901 PSI                   |  |  |  |
| .3       | Oil flow rate for attachments                                   |            | 25 l/min                                              | 7 US gpm                   |  |  |  |
| .4       | Measured/guaranteed mean noise level at the ear of the operator |            | < 73 dB                                               | < 73 dB                    |  |  |  |
| 3.4      | 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 carriage tilt,<br>forward                          | ۰       | 1               | 1               | 1               | 1               | 1               | 1               | 1               | 1                | 1                |
| β - Mast/fork carriage tilt,<br>backward                         | ۰       | 3               | 3               | 3               | 3               | 3               | 3               | 3               | 3                | 3                |
| h1 - Mast lowered height                                         | in (mm) | 108.3<br>(2750) | 114.2<br>(2900) | 124 (3150)      | 141.3<br>(3590) | 146.5<br>(3720) | 158.3<br>(4020) | 163.4<br>(4150) | 180.7 (4590)     | 189.8 (4820)     |
| h2 - Mast free lift                                              | in (mm) | 76 (1930)       | 81.9 (2080)     | 91.7 (2330)     | 109.1<br>(2770) | 114.2<br>(2900) | 126 (3200)      | 131.1<br>(3330) | 148.4 (3770)     | 157.5 (4000)     |
| h3 - Mast lifting height                                         | in (mm) | 216.5<br>(5500) | 236.2<br>(6000) | 259.8<br>(6600) | 300 (7620)      | 315.4<br>(8010) | 339 (8610)      | 354.3<br>(9000) | 394.5<br>(10020) | 415.7<br>(10560) |
| h4 - Mast extended height                                        | in (mm) | 144.9<br>(3680) | 268.9<br>(6830) | 292.5<br>(7430) | 332.7<br>(8450) | 348 (8840)      | 371.7<br>(9440) | 387 (9830)      | 433.1<br>(11000) | 454.3<br>(11540) |
| Residual capacity with<br>integrated side shift at max<br>heigth | lb (kg) | 3307 (1500)     | 3307 (1500)     | 3197 (1450)     | 3086 (1400)     | 2976 (1350)     | 2866 (1300)     | 2756 (1250)     | 2205 (1000)      | 1874 (850)       |





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