

Technical sheet :

# ME 420



 **MANITOU**  
HANDLING YOUR WORLD

| Technical characteristics |   |           | Metric                   |
|---------------------------|---|-----------|--------------------------|
| 1.1                       | Manufacturer  |           | Manitou                  |
| 1.2                       | Model Name  |           | ME 420                   |
| 1.3                       | Power source  |           | Electrical               |
| 1.4                       | Operator type   |           | Seated                   |
| 1.5                       | Max. capacity   | Q         | 2000 kg                  |
| 1.6                       | Load center of gravity  | c         | 500 mm                   |
| 1.8                       | Load distance, centre of drive axle to fork                     | x         | 448 mm                   |
| 1.9                       | Wheelbase   | y         | 1485 mm                  |
| Weight                    |   |           |                          |
| 2.1                       | Service weight  |           | 4000 kg                  |
| 2.2                       | Weight on front axle (laden) / rear axle (laden)                |           | 5360 kg / 640 kg         |
| 2.3                       | Weight on front axle (Unladen) / rear axle (Unladen)            |           | 1910 kg / 2090 kg        |
| Wheels                    |   |           |                          |
| 3.1                       | Tires type  |           | Solid tires              |
| 3.2                       | Dimensions of front wheels                                      |           | 23 x 9-10                |
| 3.3                       | Dimensions of rear wheels                                       |           | 18 x 7-8                 |
| 3.5                       | Number of front wheels / rear wheels                            |           | 2 / 2                    |
| 3.5.2                     | Number of drive wheels  |           | 2                        |
| 3.6                       | Front wheel gauge   | b10       | 1058 mm                  |
| 3.7                       | Rear wheel gauge  | b11       | 960 mm                   |
| Dimensions                |   |           |                          |
| 4.7                       | Height of overhead guard (cabin)                                | h6        | 2155 mm                  |
| 4.8                       | Seat height/stand height  | h7        | 1070 mm                  |
| 4.12                      | Height of towing bar (coupling height)                          | h10       | 303 mm                   |
| 4.19                      | Overall length  | l1        | 3492 mm                  |
| 4.20                      | Length to face of forks   | l2        | 2342 mm                  |
| 4.21                      | Overall width   | b1        | 1265 mm                  |
| 4.22                      | Forks section / width / length                                  | s / e / l | 122 mm x 1150 mm x 40 mm |
| 4.23                      | Fork carriage ISO 2328 (class/form) A/B                         |           | 2A                       |
| 4.24                      | Fork carriage width   | b3        | 1038 mm                  |
| 4.31                      | Ground clearance below mast                                     | m1        | 112 mm                   |
| 4.32                      | Ground clearance at centre of wheelbase                         | m2        | 120 mm                   |
| 4.33                      | Aisle Width for pallets 1000 x 1200 crossways                   | Ast       | 3738 mm                  |
| 4.34                      | Aisle width for 800 x 1200 pallet lengthways                    | Ast       | 3938 mm                  |
| 4.35                      | Turning radius  | Wa        | 2090 mm                  |
| 4.36                      | Internal turning radius (over tyres)                            | b13       | 730 mm                   |
| Performances              |   |           |                          |
| 5.1                       | Travel speed (laden / unladen)                                  |           | 14 km/h-14 km/h          |
| 5.2                       | Lifting speed (laden / unladen)                                 |           | 0.28 m/s-0.40 m/s        |
| 5.3                       | Lowering speed (laden / unladen)                                |           | 0.42 m/s-0.29 m/s        |
| 5.5                       | Drawbar pull (Laden / Unladen)                                  |           | 1400 daN / 1250 daN      |
| 5.7                       | Gradeability (laden / unladen)                                  |           | 11 % / 12 %              |
| 5.10                      | Service brake   |           | Hydraulic                |
| Engine                    |   |           |                          |
| 6.1                       | Drive motor rating S2 60 min                                    |           | 11 kW                    |
| 6.2                       | Lift motor rating at S3 15%                                     |           | 8.60 kW                  |
| 6.3                       | Battery according to DIN 43531/35/36 A, B, C                    |           | DIN43531 B               |
| 6.4                       | Battery voltage / capacity                                      |           | 48 V / 700 Ah            |
| 6.6                       | Energy consumption according to VDI cycle (kWh/h)               |           | 5 kWh/h                  |
| Miscellaneous             |   |           |                          |
| 8.1                       | Type of drive control   |           | Electronic               |
| 8.2                       | Working hydraulic pressure for attachments                      |           | 175 bar                  |
| 8.3                       | Oil flow rate for attachments                                   |           | 35 l/min                 |
| 8.4                       | Measured/guaranteed mean noise level at the ear of the operator |           | < 71 dB                  |
| 8.4                       | Sound level at the driver's ear according to DIN 12 053         |           | 71 dB                    |

### ME 420 - Dimensional drawing



## Characteristics of masts and residual capacities

| Full Visibility Duplex (FVD)                               |    | FVD 27 | FVD 30 | FVD 33 | FVD 36 | FVD 40 | FVD 43 | FVD 45 |
|--|----|--------|--------|--------|--------|--------|--------|--------|
| α - Mast/fork carriage tilt, forward                       | °  | 5      | 5      | 5      | 5      | 5      | 5      | 5      |
| β - Mast/fork carriage tilt, backward                      | °  | 6      | 10     | 10     | 10     | 10     | 6      | 6      |
| h1 - Mast lowered height                                   | mm | 1855   | 2005   | 2170   | 2305   | 2555   | 2730   | 2830   |
| h2 - Mast free lift  | mm | 140    | 140    | 140    | 140    | 140    | 140    | 140    |
| h3 - Mast lifting height                                   | mm | 2700   | 3000   | 3300   | 3600   | 4000   | 4300   | 4500   |
| h4 - Mast extended height                                  | mm | 3350   | 3650   | 3980   | 4250   | 4650   | 4970   | 5150   |
| Residual capacity at max height                            | kg | 2000   | 2000   | 2000   | 2000   | 2000   | 2000   | 2000   |
| Residual capacity with integrated side shift at max height | kg | 2000   | 2000   | 2000   | 2000   | 2000   | 2000   | 2000   |
| Residual capacity with hooked-on side shift at max height  | kg | 2000   | 2000   | 2000   | 2000   | 2000   | 1950   | 1900   |
| Height at max capacity                                     | mm | 2700   | 3000   | 3300   | 3600   | 4000   | 4300   | 4500   |
| Height at max capacity with integrated sideshift           | mm | 2700   | 3000   | 3300   | 3600   | 4000   | 4300   | 4500   |

| Free Lift Duplex (FLD)                                     |    | FLD 27 | FLD 30 | FLD 33 | FLD 36 | FLD 40 |
|--|----|--------|--------|--------|--------|--------|
| α - Mast/fork carriage tilt, forward                       | °  | 5      | 5      | 5      | 5      | 5      |
| β - Mast/fork carriage tilt, backward                      | °  | 6      | 10     | 10     | 10     | 10     |
| h1 - Mast lowered height                                   | mm | 1866   | 1980   | 2130   | 2280   | 2530   |
| h2 - Mast free lift  | mm | 1250   | 1350   | 1500   | 1650   | 1900   |
| h3 - Mast lifting height                                   | mm | 2700   | 3000   | 3300   | 3600   | 4000   |
| h4 - Mast extended height                                  | mm | 3370   | 3635   | 3970   | 4270   | 4635   |
| Residual capacity at max height                            | kg | 2000   | 2000   | 2000   | 2000   | 2000   |
| Residual capacity with integrated side shift at max height | kg | 2000   | 2000   | 2000   | 2000   | 2000   |
| Residual capacity with hooked-on side shift at max height  | kg | 2000   | 2000   | 2000   | 2000   | 2000   |
| Height at max capacity                                     | mm | 2700   | 3000   | 3300   | 3600   | 4000   |
| Height at max capacity with integrated sideshift           | mm | 2700   | 3000   | 3300   | 3600   | 4000   |

| Free Lift Triplex (FLT)                                    |    | FLT 40 | FLT 43 | FLT 45 | FLT 48 | FLT 50 | FLT 55 | FLT 60 | FLT 65 |
|--|----|--------|--------|--------|--------|--------|--------|--------|--------|
| α - Mast/fork carriage tilt, forward                       | °  | 5      | 5      | 5      | 5      | 5      | 3      | 3      | 3      |
| β - Mast/fork carriage tilt, backward                      | °  | 6      | 6      | 6      | 6      | 6      | 6      | 6      | 6      |
| h1 - Mast lowered height                                   | mm | 1925   | 2025   | 2095   | 2195   | 2260   | 2425   | 2645   | 2820   |
| h2 - Mast free lift  | mm | 1255   | 1355   | 1425   | 1525   | 1590   | 1755   | 1975   | 2150   |
| h3 - Mast lifting height                                   | mm | 4000   | 4300   | 4500   | 4800   | 5000   | 5500   | 6000   | 6500   |
| h4 - Mast extended height                                  | mm | 4680   | 4980   | 5230   | 5480   | 5680   | 5180   | 6690   | 7180   |
| Residual capacity at max height                            | kg | 2000   | 2000   | 2000   | 1950   | 1850   | 1800   | 1650   | 1550   |
| Residual capacity with integrated side shift at max height | kg | 2000   | 2000   | 1950   | 1900   | 1800   | 1750   | 1600   | 1500   |
| Residual capacity with hooked-on side shift at max height  | kg | 1900   | 1900   | 1850   | 1800   | 1700   | 1650   | 1500   | 1400   |
| Height at max capacity                                     | mm | 4000   | 4300   | 4500   | 4000   | 4000   | 4000   | 4000   | 4000   |
| Height at max capacity with integrated sideshift           | mm | 4000   | 4300   | 4500   | 4000   | 4000   | 4000   | 4000   | 4000   |



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