

Technical sheet :

# ES 820



 **MANITOU**  
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| Technical characteristics |   | Metric    |                          |
|---------------------------|---|-----------|--------------------------|
| 1.1                       | Manufacturer  |           | Manitou                  |
| 1.2                       | Model Name  |           | ES 820                   |
| 1.3                       | Power source  |           | Electrical - Lead        |
| 1.4                       | Operator type   |           | Pedestrian               |
| 1.5                       | Max. capacity   | Q         | 2000 kg                  |
| 1.6                       | Load center of gravity                                      | c         | 600 mm                   |
| 1.8                       | Distance from Load backrest to center of rear axle          | x         | 661 mm                   |
| 1.9                       | Wheelbase   | y         | 1378 mm                  |
| Weight                    |   |           |                          |
| 2.1                       | Service weight  |           | 1620 kg                  |
| 2.2                       | Weight on front axle (laden) / rear axle (laden)            |           | 1180 kg / 2510 kg        |
| 2.3                       | Weight on front axle (Unladen) / rear axle (Unladen)        |           | 1125 kg / 495 kg         |
| Wheels                    |   |           |                          |
| 3.1                       | Tires type  |           | Polyurethane cushion     |
| 3.3                       | Number of load wheels / Size of load wheels                 |           | 2 / 82x68                |
| 3.4                       | Number of stabilizer wheels / Size of the stabilizer wheels |           | 2 / 120x50               |
| 3.5                       | Number of front wheels / rear wheels                        |           | 3 / 4                    |
| 3.5.2                     | Number of drive wheels / Size of drive wheels               |           | 1/254x100                |
| 3.6                       | Front wheel gauge   | b10       | 664 mm                   |
| 3.7                       | Rear wheel gauge  | b11       | 393 mm                   |
| Dimensions                |   |           |                          |
| 4.15                      | Fork height in low position                                 | h13       | 82 mm                    |
| 4.19                      | Overall length  | l1        | 2048 mm                  |
| 4.20                      | Length to face of forks                                     | l2        | 898 mm                   |
| 4.21                      | Overall width   | b1        | 890 mm                   |
| 4.22                      | Forks section / width / length                              | s / e / l | 70 mm / 185 mm / 1150 mm |
| 4.24                      | Fork carriage width   | b3        | 700 mm                   |
| 4.31                      | Ground clearance below mast                                 | m1        | 30 mm                    |
| 4.32                      | Ground clearance at centre of wheelbase                     | m2        | 25 mm                    |
| 4.33                      | Aisle Width for pallets 1000 x 1200 crossways               | Ast       | 2469 mm                  |
| 4.34                      | Aisle width for 800 x 1200 pallet lengthways                | Ast       | 2448 mm                  |
| 4.35                      | Turning radius  | Wa        | 1591 mm                  |
| 4.9                       | Height tiller min. / max.                                   | h14       | 975 mm / 1375 mm         |
| Performances              |   |           |                          |
| 5.1                       | Travel speed (laden / unladen)                              |           | 6 km/h / 6 km/h          |
| 5.2                       | Lifting speed (laden / unladen)                             |           | 0.11 m/s / 0.20 m/s      |
| 5.3                       | Lowering speed (laden / unladen)                            |           | 0.21 m/s / 0.22 m/s      |
| 5.8                       | Max Gradeability (laden / unladen)                          |           | 6 % / 10 %               |
| 5.10                      | Service brake   |           | Electro magnetic         |
| Engine                    |   |           |                          |
| 6.1                       | Drive motor rating S2 60 min                                |           | 2 kW                     |
| 6.2                       | Lift motor rating at S3 15%                                 |           | 4 kW                     |
| 6.3                       | Battery according to DIN 43531/35/36 A, B, C                |           | Traction                 |
| 6.4                       | Battery voltage / capacity                                  |           | 24 V / 315 Ah            |
| 6.5                       | Battery weight (+/- 5%)                                     |           | 273 kg                   |
| Miscellaneous             |   |           |                          |
| 8.1                       | Type of drive control                                       |           | AC                       |
| 8.4                       | Sound level at the driver's ear according to DIN 12 053     |           | 65 dB                    |

### ES 820 - Dimensional drawing



## Characteristics of masts and residual capacities

| Central Cylinder Simplex (CCS)  |    | CCS 15 | CCS 17 |
|---------------------------------|----|--------|--------|
| h1 - Mast lowered height        | mm | 1937   | 2187   |
| h2 - Mast free lift             | mm | 1500   | 1700   |
| h3 - Mast lifting height        | mm | 1500   | 1700   |
| h4 - Mast extended height       | mm | 1943   | 2193   |
| Residual capacity at max height | kg | 2000   | 2000   |

| Full Visibility Duplex (FVD)    |    | FVD 29 | FVD 34 | FVD 38 |
|---------------------------------|----|--------|--------|--------|
| h1 - Mast lowered height        | mm | 1937   | 2187   | 2387   |
| h3 - Mast lifting height        | mm | 2900   | 3400   | 3800   |
| h4 - Mast extended height       | mm | 3373   | 3873   | 4273   |
| Residual capacity at max height | kg | 1400   | 1100   | 900    |

| Free Lift Duplex (FLD)          |    | FLD 29 | FLD 34 |
|---------------------------------|----|--------|--------|
| h1 - Mast lowered height        | mm | 1937   | 2187   |
| h2 - Mast free lift             | mm | 1507   | 1757   |
| h3 - Mast lifting height        | mm | 2900   | 3400   |
| h4 - Mast extended height       | mm | 3368   | 3868   |
| Residual capacity at max height | kg | 1400   | 1050   |

| Free Lift Triplex (FLT)         |    | FLT 42 | FLT 47 | FLT 54 |
|---------------------------------|----|--------|--------|--------|
| h1 - Mast lowered height        | mm | 1895   | 2055   | 2295   |
| h2 - Mast free lift             | mm | 1452   | 1612   | 1862   |
| h3 - Mast lifting height        | mm | 4200   | 4700   | 5400   |
| h4 - Mast extended height       | mm | 4693   | 5173   | 5903   |
| Residual capacity at max height | kg | 700    | 600    | 450    |



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