

Technical sheet :

# **ES 616**

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 **MANITOU**  
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| Technical characteristics |   | Metric    |                          |
|---------------------------|---|-----------|--------------------------|
| 1.1                       | Manufacturer  |           | Manitou                  |
| 1.2                       | Model Name  |           | ES 616                   |
| 1.3                       | Power source  |           | Electrical - Lead        |
| 1.4                       | Operator type   |           | Pedestrian               |
| 1.5                       | Max. capacity   | Q         | 1600 kg                  |
| 1.6                       | Load center of gravity                                      | c         | 600 mm                   |
| 1.8                       | Distance from Load backrest to center of rear axle          | x         | 687 mm                   |
| 1.9                       | Wheelbase   | y         | 1252 mm                  |
| Weight                    |   |           |                          |
| 2.1                       | Service weight  |           | 1095 kg                  |
| 2.2                       | Weight on front axle (laden) / rear axle (laden)            |           | 1065 kg / 1620 kg        |
| 2.3                       | Weight on front axle (Unladen) / rear axle (Unladen)        |           | 855 kg / 240 kg          |
| Wheels                    |   |           |                          |
| 3.1                       | Tires type  |           | Polyurethane cushion     |
| 3.3                       | Number of load wheels / Size of load wheels                 |           | 24 / 82 x 68             |
| 3.4                       | Number of stabilizer wheels / Size of the stabilizer wheels |           | 1 / 120 x 54             |
| 3.5                       | Number of front wheels / rear wheels                        |           | 2 / 2                    |
| 3.5.2                     | Number of drive wheels / Size of drive wheels               |           | 1/230x70                 |
| 3.6                       | Front wheel gauge   | b10       | 529 mm                   |
| 3.7                       | Rear wheel gauge  | b11       | 380 mm                   |
| Dimensions                |   |           |                          |
| 4.15                      | Fork height in low position                                 | h13       | 85 mm                    |
| 4.19                      | Overall length  | l1        | 1910 mm                  |
| 4.20                      | Length to face of forks                                     | l2        | 761 mm                   |
| 4.21                      | Overall width   | b1        | 800 mm                   |
| 4.22                      | Forks section / width / length                              | s / e / l | 60 mm / 185 mm / 1150 mm |
| 4.24                      | Fork carriage width   | b3        | 700 mm                   |
| 4.32                      | Ground clearance at centre of wheelbase                     | m2        | 30 mm                    |
| 4.33                      | Aisle Width for pallets 1000 x 1200 crossways               | Ast       | 2286 mm                  |
| 4.34                      | Aisle width for 800 x 1200 pallet lengthways                | Ast       | 2325 mm                  |
| 4.35                      | Turning radius  | Wa        | 1476 mm                  |
| 4.9                       | Height tiller min. / max.                                   | h14       | 750 mm / 1250 mm         |
| Performances              |   |           |                          |
| 5.1                       | Travel speed (laden / unladen)                              |           | 6 km/h / 6 km/h          |
| 5.2                       | Lifting speed (laden / unladen)                             |           | 0.18 m/s / 0.30 m/s      |
| 5.3                       | Lowering speed (laden / unladen)                            |           | 0.27 m/s / 0.22 m/s      |
| 5.8                       | Max Gradeability (laden / unladen)                          |           | 7 % / 10 %               |
| 5.10                      | Service brake   |           | Electro magnetic         |
| Engine                    |   |           |                          |
| 6.1                       | Drive motor rating S2 60 min                                |           | 1.50 kW                  |
| 6.2                       | Lift motor rating at S3 15%                                 |           | 3 kW                     |
| 6.3                       | Battery according to DIN 43531/35/36 A, B, C                |           | DIN 43535-B              |
| 6.4                       | Battery voltage / capacity                                  |           | 24 V / 250 Ah            |
| 6.5                       | Battery weight (+/- 5%)                                     |           | 189 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 616 - Dimensional drawing



## Characteristics of masts and residual capacities

| Central Cylinder Simplex (CCS)  |    | CCS 15 | CCS 17 |
|---------------------------------|----|--------|--------|
| h1 - Mast lowered height        | mm | 1930   | 2180   |
| h2 - Mast free lift             | mm | 1420   | 1670   |
| h3 - Mast lifting height        | mm | 1500   | 1700   |
| h4 - Mast extended height       | mm | 1944   | 2194   |
| Residual capacity at max height | kg | 1600   | 1600   |

| Full Visibility Duplex (FVD)    |    | FVD 29 | FVD 34 | FVD 38 |
|---------------------------------|----|--------|--------|--------|
| h1 - Mast lowered height        | mm | 1930   | 2180   | 2380   |
| h3 - Mast lifting height        | mm | 2900   | 3400   | 3800   |
| h4 - Mast extended height       | mm | 3374   | 3874   | 4274   |
| Residual capacity at max height | kg | 1400   | 1150   | 950    |

| Free Lift Duplex (FLD)          |    | FLD 29 | FLD 34 |
|---------------------------------|----|--------|--------|
| h1 - Mast lowered height        | mm | 1930   | 2180   |
| h2 - Mast free lift             | mm | 1420   | 1670   |
| h3 - Mast lifting height        | mm | 2900   | 3400   |
| h4 - Mast extended height       | mm | 3369   | 3869   |
| Residual capacity at max height | kg | 1400   | 1150   |

| Free Lift Triplex (FLT)         |    | FLT 42 | FLT 47 | FLT 54 |
|---------------------------------|----|--------|--------|--------|
| h1 - Mast lowered height        | mm | 1889   | 2049   | 2300   |
| h2 - Mast free lift             | mm | 1380   | 1540   | 1790   |
| h3 - Mast lifting height        | mm | 4200   | 4700   | 5400   |
| h4 - Mast extended height       | mm | 4701   | 5181   | 5880   |
| Residual capacity at max height | kg | 750    | 650    | 500    |

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