

Technical sheet :

# **ES 616 LI**

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|       | Technical characteristics                                   |           | Metric                   |
|-------|---|-----------|--------------------------|
| 1.1   | Manufacturer  |           | Manitou                  |
| 1.2   | Model Name  |           | ES 616 LI                |
| 1.3   | Power source  |           | Electrical               |
| 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         | 848 mm                   |
| 1.9   | Wheelbase   | y         | 1492 mm                  |
|       | Weight  |           |                          |
| 2.1   | Service weight  |           | 1283 kg                  |
| 2.2   | Weight on front axle (laden) / rear axle (laden)            |           | 1216 kg / 1660 kg        |
| 2.3   | Weight on front axle (Unladen) / rear axle (Unladen)        |           | 1033 kg / 280 kg         |
|       | Wheels  |           |                          |
| 3.1   | Tires type  |           | Polyurethane             |
| 3.3   | Number of load wheels / Size of load wheels                 |           | 4 / 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 / 4                    |
| 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  |           |                          |
| 4.6   | Initial lift  | h5        | 110 mm                   |
| 4.15  | Fork height in low position                                 | h13       | 86 mm                    |
| 4.19  | Overall length  | l1        | 2035 mm                  |
| 4.20  | Length to face of forks                                     | l2        | 846 mm                   |
| 4.21  | Overall width   | b1        | 800 mm                   |
| 4.22  | Forks section / width / length                              | s / e / l | 60 mm / 185 mm / 1190 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       | 2520 mm                  |
| 4.34  | Aisle width for 800 x 1200 pallet lengthways                | Ast       | 2435 mm                  |
| 4.35  | Turning radius  | Wa        | 1716 mm                  |
| 4.9   | Height tiller min. / max.                                   | h14 / 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 / 180 Ah            |
| 6.5   | Battery weight (+/- 5%)                                     |           | 220 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 LI - Dimensional drawing



## Characteristics of masts and residual capacities

| Central Cylinder Simplex (CCS)  |    | CCS 15 | CCS 17 |
|---------------------------------|----|--------|--------|
| h1 - Mast lowered height        | mm | 1953   | 2203   |
| h2 - Mast free lift             | mm | 1506   | 1756   |
| h3 - Mast lifting height        | mm | 1506   | 1756   |
| h4 - Mast extended height       | mm | 1960   | 2210   |
| Residual capacity at max height | kg | 1600   | 1600   |

| Full Visibility Duplex (FVD)    |    | FVD 29 | FVD 34 | FVD 38 |
|---------------------------------|----|--------|--------|--------|
| h1 - Mast lowered height        | mm | 1953   | 2203   | 2403   |
| h3 - Mast lifting height        | mm | 2936   | 3436   | 3836   |
| h4 - Mast extended height       | mm | 3390   | 3890   | 4290   |
| Residual capacity at max height | kg | 1350   | 1100   | 850    |

| Free Lift Duplex (FLD)          |    | FLD 29 | FLD 34 |
|---------------------------------|----|--------|--------|
| h1 - Mast lowered height        | mm | 1953   | 2203   |
| h2 - Mast free lift             | mm | 1506   | 1756   |
| h3 - Mast lifting height        | mm | 2931   | 3431   |
| h4 - Mast extended height       | mm | 3385   | 3885   |
| Residual capacity at max height | kg | 1350   | 1100   |

| Free Lift Triplex (FLT)         |    | FLT 42 | FLT 47 | FLT 54 |
|---------------------------------|----|--------|--------|--------|
| h1 - Mast lowered height        | mm | 1911   | 2071   | 2315   |
| h2 - Mast free lift             | mm | 1466   | 1626   | 1880   |
| h3 - Mast lifting height        | mm | 4246   | 4726   | 5460   |
| h4 - Mast extended height       | mm | 4723   | 5203   | 5895   |
| Residual capacity at max height | kg | 670    | 500    | 450    |



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