

Technical sheet :

# ES 616 LI

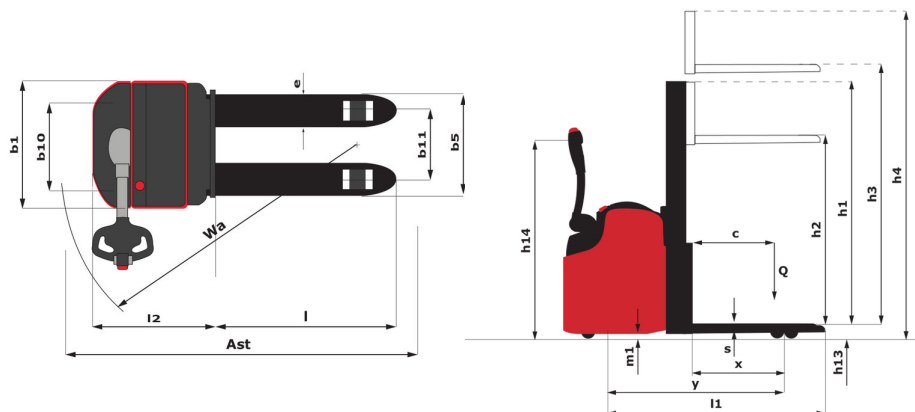
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 **MANITOU**  
HANDLING YOUR WORLD

| Technical characteristics |   |           | Metric                   | Imperial              |
|---------------------------|---|-----------|--------------------------|-----------------------|
| 1.1                       | Manufacturer  |           | Manitou                  | Manitou               |
| 1.2                       | Model Name  |           | ES 616 LI                | ES 616 LI             |
| 1.3                       | Power source  |           | Electrical               | Electrical            |
| 1.4                       | Operator type   |           | Pedestrian               | Pedestrian            |
| 1.5                       | Max. capacity   | Q         | 1600 kg                  | 3527 lb               |
| 1.6                       | Load center of gravity                                      | c         | 600 mm                   | 24 in                 |
| 1.8                       | Distance from Load backrest to center of rear axle          | x         | 848 mm                   | 33 in                 |
| 1.9                       | Wheelbase   | y         | 1492 mm                  | 59 in                 |
| Weight                    |   |           |                          |                       |
| 2.1                       | Service weight  |           | 1327 kg                  | 2926 lb               |
| 2.2                       | Weight on front axle (laden) / rear axle (laden)            |           | 1246 kg / 1670 kg        | 2747 lb / 3682 lb     |
| 2.3                       | Weight on front axle (Unladen) / rear axle (Unladen)        |           | 1033 kg / 290 kg         | 2277 lb / 639 lb      |
| Wheels                    |   |           |                          |                       |
| 3.1                       | Tires type  |           | Bandage                  | Bandage               |
| 3.3                       | Number of load wheels / Size of load wheels                 |           | 2 / 140x60               | 2 / 140x60            |
| 3.4                       | Number of stabilizer wheels / Size of the stabilizer wheels |           | 1 / 140x60               | 1 / 140x60            |
| 3.5                       | Number of front wheels / rear wheels                        |           | 2 / 4                    | 2 / 4                 |
| 3.5.2                     | Number of drive wheels / Size of drive wheels               |           | 1/230x70                 | 1/230x70              |
| 3.6                       | Front wheel gauge   | b10       | 529 mm                   | 21 in                 |
| 3.7                       | Rear wheel gauge  | b11       | 380 mm                   | 15 in                 |
| Dimensions                |   |           |                          |                       |
| 4.6                       | Initial lift  | h5        | 110 mm                   | 4 in                  |
| 4.15                      | Fork height in low position                                 | h13       | 86 mm                    | 3 in                  |
| 4.19                      | Overall length  | l1        | 2174 mm                  | 86 in                 |
| 4.20                      | Length to face of forks                                     | l2        | 976 mm                   | 38 in                 |
| 4.21                      | Overall width   | b1        | 800 mm                   | 31 in                 |
| 4.22                      | Forks section / width / length                              | s / e / l | 60 mm / 185 mm / 1190 mm | 2 in / 7 in / 47 in   |
| 4.24                      | Fork carriage width   | b3        | 700 mm                   | 2296 ft 7 in          |
| 4.32                      | Ground clearance at centre of wheelbase                     | m2        | 30 mm                    | 1 in                  |
| 4.33                      | Aisle Width for pallets 1000 x 1200 crossways               | Ast       | 2520 mm                  | 99 in                 |
| 4.34                      | Aisle width for 800 x 1200 pallet lengthways                | Ast       | 2435 mm                  | 96 in                 |
| 4.35                      | Turning radius  | Wa        | 1588 mm                  | 63 in                 |
| 4.9                       | Height tiller min. / max.                                   | h14 / h14 | 750 mm / 1250 mm         | 30 in / 49 in         |
| Performances              |   |           |                          |                       |
| 5.1                       | Travel speed (laden / unladen)                              |           | 6 km/h / 6 km/h          | 4 mph / 4 mph         |
| 5.2                       | Lifting speed (laden / unladen)                             |           | 0.18 m/s / 0.30 m/s      | 0.59 ft/s / 0.98 ft/s |
| 5.3                       | Lowering speed (laden / unladen)                            |           | 0.27 m/s / 0.22 m/s      | 0.89 ft/s / 0.72 ft/s |
| 5.8                       | Max Gradeability (laden / unladen)                          |           | 7 % / 10 %               | 7 % / 10 %            |
| 5.10                      | Service brake   |           | Electro magnetic         | Electro magnetic      |
| Engine                    |   |           |                          |                       |
| 6.1                       | Drive motor rating S2 60 min                                |           | 1.50 kW                  | 1.50 kW               |
| 6.2                       | Lift motor rating at S3 15%                                 |           | 3 kW                     | 3 kW                  |
| 6.3                       | Battery according to DIN 43531/35/36 A, B, C                |           | DIN 43535-B              | DIN 43535-B           |
| 6.4                       | Battery voltage / capacity                                  |           | 24 V / 180 Ah            | 24 V / 180 Ah         |
| 6.5                       | Battery weight (+/- 5%)                                     |           | 189 kg                   | 417 lb                |
| Miscellaneous             |   |           |                          |                       |
| 8.1                       | Type of drive control                                       |           | AC                       | AC                    |
| 8.4                       | Sound level at the driver's ear according to DIN 12 053     |           | 65 dB                    | 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        | in (mm) | 76.9 (1953) | 86.7 (2203) |
| h2 - Mast free lift             | in (mm) | 59.3 (1506) | 69.1 (1756) |
| h3 - Mast lifting height        | in (mm) | 59.3 (1506) | 69.1 (1756) |
| h4 - Mast extended height       | in (mm) | 77.2 (1960) | 87 (2210)   |
| Residual capacity at max height | lb (kg) | 3527 (1600) | 3527 (1600) |

| Full Visibility Duplex (FVD)    |         | FVD 29       | FVD 34       | FVD 38       |
|---------------------------------|---------|--------------|--------------|--------------|
| h1 - Mast lowered height        | in (mm) | 76.9 (1953)  | 86.7 (2203)  | 94.6 (2403)  |
| h3 - Mast lifting height        | in (mm) | 115.6 (2936) | 135.3 (3436) | 151 (3836)   |
| h4 - Mast extended height       | in (mm) | 133.5 (3390) | 153.1 (3890) | 168.9 (4290) |
| Residual capacity at max height | lb (kg) | 2976 (1350)  | 2425 (1100)  | 1874 (850)   |

| Free Lift Duplex (FLD)          |         | FLD 29       | FLD 34       |
|---------------------------------|---------|--------------|--------------|
| h1 - Mast lowered height        | in (mm) | 76.9 (1953)  | 86.7 (2203)  |
| h2 - Mast free lift             | in (mm) | 59.3 (1506)  | 69.1 (1756)  |
| h3 - Mast lifting height        | in (mm) | 115.4 (2931) | 135.1 (3431) |
| h4 - Mast extended height       | in (mm) | 133.3 (3385) | 153 (3885)   |
| Residual capacity at max height | lb (kg) | 2976 (1350)  | 2425 (1100)  |

| Free Lift Triplex (FLT)         |         | FLT 42       | FLT 47       | FLT 54       |
|---------------------------------|---------|--------------|--------------|--------------|
| h1 - Mast lowered height        | in (mm) | 75.2 (1911)  | 81.5 (2071)  | 91.1 (2315)  |
| h2 - Mast free lift             | in (mm) | 57.7 (1466)  | 64 (1626)    | 74 (1880)    |
| h3 - Mast lifting height        | in (mm) | 167.2 (4246) | 186.1 (4726) | 215 (5460)   |
| h4 - Mast extended height       | in (mm) | 185.9 (4723) | 204.8 (5203) | 232.1 (5895) |
| Residual capacity at max height | lb (kg) | 1477 (670)   | 1102 (500)   | 992 (450)    |



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