

Technical sheet :

ES 616



 **MANITOU**
HANDLING YOUR WORLD

| | Technical characteristics | | Metric | Imperial |
|-------|---|-----------|--------------------------|-----------------------|
| 1.1 | Manufacturer | | Manitou | Manitou |
| 1.2 | Model Name | | ES 616 | ES 616 |
| 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 | 687 mm | 27 in |
| 1.9 | Wheelbase | y | 1250 mm | 49 in |
| | Weight | | | |
| 2.1 | Service weight | | 1327 kg | 2926 lb |
| 2.2 | Weight on front axle (laden) / rear axle (laden) | | 1064 kg / 1620 kg | 2346 lb / 3571 lb |
| 2.3 | Weight on front axle (Unladen) / rear axle (Unladen) | | 851 kg / 240 kg | 1876 lb / 529 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 / 2 | 2 / 2 |
| 3.5.2 | Number of drive wheels / Size of drive wheels | | 1/230x70 | 1/230x70 |
| 3.6 | Front wheel gauge | b10 | 529 mm | 1735 ft 7 in |
| 3.7 | Rear wheel gauge | b11 | 380 mm | 15 in |
| | Dimensions | | | |
| 4.15 | Fork height in low position | h13 | 85 mm | 3 in |
| 4.19 | Overall length | l1 | 1910 mm | 75 in |
| 4.20 | Length to face of forks | l2 | 761 mm | 30 in |
| 4.21 | Overall width | b1 | 800 mm | 31 in |
| 4.22 | Forks section / width / length | s / e / l | 60 mm / 185 mm / 1150 mm | 2 in / 7 in / 45 in |
| 4.24 | Fork carriage width | b3 | 700 mm | 28 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 | 2464 mm | 97 in |
| 4.34 | Aisle width for 800 x 1200 pallet lengthways | Ast | 2438 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 - Dimensional drawing



Characteristics of masts and residual capacities

| Central Cylinder Simplex (CCS) | | CCS 15 | CCS 17 |
|---------------------------------|---------|-------------|-------------|
| h1 - Mast lowered height | in (mm) | 76 (1930) | 85.8 (2180) |
| h2 - Mast free lift | in (mm) | 59.3 (1505) | 69.1 (1755) |
| h3 - Mast lifting height | in (mm) | 59.3 (1505) | 69.1 (1755) |
| h4 - Mast extended height | in (mm) | 76.5 (1944) | 86.4 (2194) |
| 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 (1930) | 85.8 (2180) | 93.7 (2380) |
| h3 - Mast lifting height | in (mm) | 115.6 (2935) | 135.2 (3435) | 151 (3835) |
| h4 - Mast extended height | in (mm) | 132.8 (3374) | 152.5 (3874) | 168.3 (4274) |
| Residual capacity at max height | lb (kg) | 2976 (1350) | 2425 (1100) | 1984 (900) |

| Free Lift Duplex (FLD) | | FLD 29 | FLD 34 |
|---------------------------------|---------|--------------|--------------|
| h1 - Mast lowered height | in (mm) | 76 (1930) | 85.8 (2180) |
| h2 - Mast free lift | in (mm) | 59.3 (1505) | 69.1 (1755) |
| h3 - Mast lifting height | in (mm) | 115.4 (2930) | 135 (3430) |
| h4 - Mast extended height | in (mm) | 132.6 (3369) | 152.3 (3869) |
| 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) | 74.4 (1889) | 80.7 (2049) | 90.6 (2300) |
| h2 - Mast free lift | in (mm) | 57.7 (1465) | 64 (1625) | 73.8 (1875) |
| h3 - Mast lifting height | in (mm) | 167.1 (4245) | 186 (4725) | 214.8 (5455) |
| h4 - Mast extended height | in (mm) | 185.1 (4701) | 204 (5181) | 231.5 (5880) |
| Residual capacity at max height | lb (kg) | 1543 (700) | 1213 (550) | 1102 (500) |



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