Technical sheet:

## ES 420 DL PFR S



|  | Technical characteristics |  | Metic | Imperial |
| :---: | :---: | :---: | :---: | :---: |
| 1.1 | Manufacturer |  | Manitou | Manitou |
| 1.2 | Model Name |  | ES 420 DL PFR 9 | ES 420 DL PFR 9 |
| 1.3 | Power source |  | Electrical | Electrical |
| 1.4 | Operator type |  | Carried | Carried |
| 1.5 | Max. capacity | Q | 2000 kg | 4409 lb |
| 1.51 | Nominal capacity on wrapover forks | Q | 1000 kg | 2205 lb |
| 1.52 | Nominal capacity in double stacking 1 / 2 | Q / Q | $1000 \mathrm{~kg}+1000 \mathrm{~kg}$ | $2205 \mathrm{lb}+2205 \mathrm{lb}$ |
| 1.6 | Load center of gravity | c | 600 mm | 24 in |
| 1.8 | Distance from Load backrest to center of rear axle | x | 997 mm | 39 in |
| 1.9 | Wheelbase | y | 1704 mm | 67 in |
|  | Weight |  |  |  |
| 2.1 | Service weight |  | 1060 kg | 2337 lb |
| 2.2 | Weight on front axle (laden) / rear axle (laden) |  | $1485 \mathrm{~kg} / 1590 \mathrm{~kg}$ | 3274 lb / 3505 lb |
| 2.3 | Weight on front axle (Unladen) / rear axle (Unladen) |  | 765 kg / 310 kg | $1687 \mathrm{lb} / 683 \mathrm{lb}$ |
|  | Wheels |  |  |  |
| 3.1 | Tires type |  | Polyurethane | Polyurethane |
| 3.3 | Number of load wheels / Size of load wheels |  | 4 / 82x68 | 4 / 82x68 |
| 3.4 | Number of stabilizer wheels / Size of the stabilizer wheels |  | 2 / 120x50 | 2 / 120x50 |
| 3.5 | Number of front wheels / rear wheels |  | $2 / 4$ | $2 / 4$ |
| 3.5.2 | Number of drive wheels / Size of drive wheels |  | 1/230x75 | 1/230x75 |
| 3.6 | Front wheel gauge | b10 | 435 mm | 17 in |
| 3.7 | Rear wheel gauge | b11 | 380 mm | 15 in |
|  | Dimensions |  |  |  |
| 4.19 | Overall length | 11 | 2140 mm | 84 in |
| 4.20 | Length to face of forks | 12 | 950 mm | 37 in |
| 4.21 | Overall width | b1 | 688 mm | 27 in |
| 4.22 | Forks section / width / length | s/e/l | $60 \mathrm{~mm} / 80 \mathrm{~mm} / 1190 \mathrm{~mm}$ | $2 \mathrm{in} / 3$ in / 47 in |
| 4.24 | Fork carriage width | b3 | 650 mm | 26 in |
| 4.31 | Ground clearance below mast | m1 | 25 mm | 0.98 in |
| 4.32 | Ground clearance at centre of wheelbase | m2 | 30 mm | 1 in |
| 4.35 | Turning radius | Wa | 2010 mm | 79 in |
| 4.9 | Height tiller min. / max. | $\begin{gathered} \text { h14 / } \\ \text { h14 } \end{gathered}$ | 1045 mm / 1275 mm | 41 in / 50 in |
|  | Performances |  |  |  |
| 5.1 | Travel speed (laden / unladen) |  | $8.50 \mathrm{~km} / \mathrm{h} / 9 \mathrm{~km} / \mathrm{h}$ | $5 \mathrm{mph} / 6 \mathrm{mph}$ |
| 5.2 | Lifting speed (laden / unladen) |  | $0.11 \mathrm{~m} / \mathrm{s} / 0.18 \mathrm{~m} / \mathrm{s}$ | $0.36 \mathrm{ft} / \mathrm{s} / 0.59 \mathrm{ft} / \mathrm{s}$ |
| 5.3 | Lowering speed (laden / unladen) |  | $0.20 \mathrm{~m} / \mathrm{s} / 0.24 \mathrm{~m} / \mathrm{s}$ | $0.66 \mathrm{ft} / \mathrm{s} / 0.79 \mathrm{ft} / \mathrm{s}$ |
| 5.8 | Max Gradeability (laden / unladen) |  | $9 \% / 18$ \% | $9 \% / 18$ \% |
| 5.10 | Service brake |  | Electro magnetic | Electro magnetic |
|  | Engine |  |  |  |
| 6.1 | Drive motor rating S 260 min |  | 1.70 kW | 1.70 kW |
| 6.2 | Lift motor rating at S3 15\% |  | 2 kW | 2 kW |
| 6.3 | Battery according to DIN 43531/35/36 A, B, C |  | No | No |
| 6.4 | Battery voltage / capacity |  | $24 \mathrm{~V} / 270$ Ah | $24 \mathrm{~V} / 270$ Ah |
| 6.5 | Battery weight (+/-5\%) |  | 245 kg | 540 lb |
|  | Miscellaneous |  |  |  |
| 8.1 | Type of drive control |  | AC | AC |
| 8.4 | Sound level at the driver's ear according to DIN 12053 |  | 65 dB | 65 dB |

ES 420 DL PFR 9 - Dimensional drawing


## Characteristics of masts and residual capacities

| Free Lift Triplex (FLT) |  | FLT 21 |
| :--- | ---: | ---: |
| h1 - Mast lowered height | in (mm) | $43.3(1100)$ |
| h3 - Mast lifting height | in (mm) | $83.1(2110)$ |
| h4 - Mast extended height | in (mm) | $97.8(2485)$ |
| Residual capacity at max height | lb $(\mathrm{kg})$ | $2205(1000)$ |

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