

MACNEILL



ES14-14RA S / ES16-16RA S ES20-20RAS Electric Stacker 1.4/1.6/2.0t

Great Option for Heavy Duty & High Stacking Tasks:
High Strength Structure Suits High Racking Applications;
Various Options Such As Foldable Platform, Protection Arm & Power Steering

Macneill Engineering Limited



FEATURE

Performance

- The innovative AC system offers strong power, accurate control, excellent performance.
- High strength vertical gearbox, longer working life.
- Low-noise but durable hydraulic unit, good quality cylinder as well as hose ensure the high reliability of hydraulic system.
- AMP connector and durable electric wires greatly reduce malfunctions of components.
- H shape channel mast improves the strength of the whole truck.
- High strength chassis enhances the reliability and durability of the truck.
- Innovative Drive floating operation system(DFA) ensures the stability of the truck when steering at high speed.



Safety

- Safe hydraulic system design prevents mast from falling down abruptly when hydraulic pipeline cuts off.
- Full speed will be only available when protection arms are up, low speed mode will be automatically on otherwise.
- Emergency reverse button protects the operator from getting hurt.
- Emergency disconnect will cut off power source to avoid accident when truck goes out of control.
- Multiple lifting limit protection ensures safety.
- Automatic switch to lower speed when the fork reaches its setting height.
- Anti-rolling back brake keeps the truck from skidding down when truck is out of control or travelling on ramp.
- Dual-monitoring power steering.

Operation

- With the new design of ergonomical tiller head, all buttons can be reached conveniently & comfortably.
- Foldable platform reduces vibration which makes operator feel more comfortable when driving.
- The unique suspension driving floating system(DFA) design makes operations easy and comfortable.
- When platform is folded, truck can work at low speed in smaller space.
- Ergonomical and durable protection arm guarantees easy operation, with innovative on/off design.
- Electric power steering, smooth & comfortable (EPS).

Maintenance

- AC traction motor, maintenance free.
- Hour meter and battery indicator remind the operator of battery charging.
- Easily remove the back cover by only losing four bolts; Access to all key components for inspection, maintenance and replacement.
- Easy access for battery maintenance.
- Vertical motor makes the inspection & service much more convenient.
- Control system allows easy trouble-shooting.
- Mast and chassis are assembled together, easy for maintenance.
- Low voltage cut off setting protects batteries.

Electric Stacker 1.4/1.6/2.0t

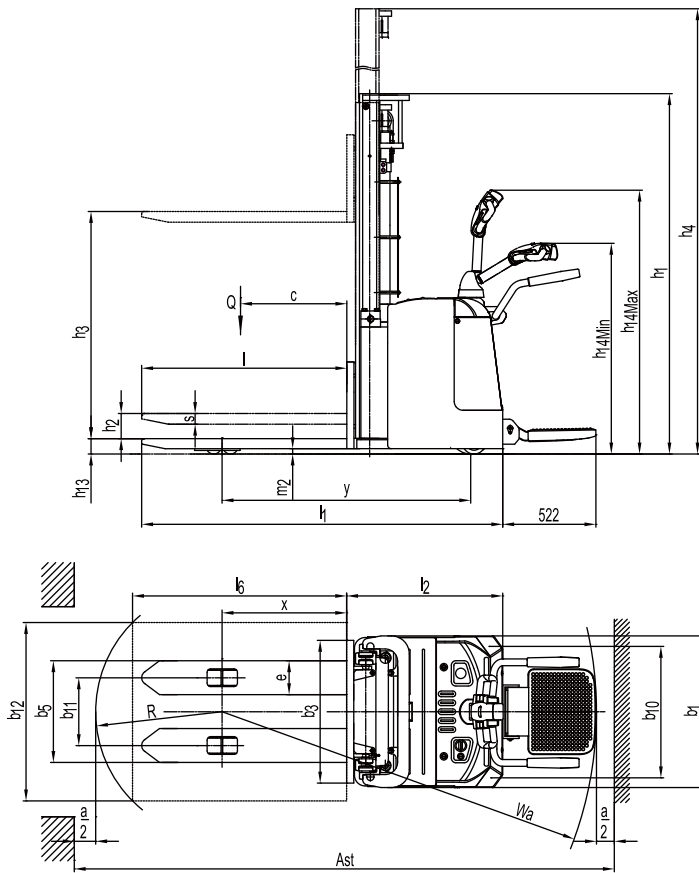
ES14-14RA S / ES16-16RA S / ES20-20RAS

| Distinguishing mark | | | | | | | | |
|---------------------|----------------------------------------------------------|-----------------|--------|---------------------|---------------------|---------------------|---------------------|---------------------|
| 1.1 | Manufacturer | | | EP | EP | EP | EP | EP |
| 1.2 | Model designation | | | ES14-14RA | ES16-16RA | ES14-14RAS | ES16-16RAS | ES20-20RAS |
| 1.3 | Drive unit | | | Battery | Battery | Battery | Battery | Battery |
| 1.4 | Operator type | | | Standing | Standing | Standing | Standing | Standing |
| 1.5 | rated capacity | Q | kg | 1400 | 1600 | 1400 | 1600 | 2000 |
| 1.6 | Load center distance | c | mm | 600 | 600 | 600 | 600 | 600 |
| 1.7 | Load distance, centre of drive axle to fork | x | mm | 693 | 693 | 693 | 693 | 693 |
| 1.8 | Wheelbase | y | mm | 1394 | 1394 | 1394 | 1394 | 1394 |
| Weight | | | | | | | | |
| 2.1 | Service weight (include battery) | | kg | 1290 | 1320 | 1320 | 1350 | 1350 |
| 2.2 | Axle loading, laden driving side/loading side | | kg | 930/1760 | 960/1960 | 950/1770 | 980/1970 | 1100/2250 |
| 2.3 | Axle loading, unladen driving side/loading side | | kg | 900/390 | 925/395 | 925/395 | 950/400 | 950/400 |
| Types,Chassis | | | | | | | | |
| 3.1 | Tyre type Driving w heels/Loading wheels | | | PU/PU | PU/PU | PU/PU | PU/PU | PU/ PU |
| 3.2 | Tyre size, driving w heels (diameterxwidth) | | mm | 230x75 | 230x75 | 230x75 | 230x75 | 230x75 |
| 3.3 | Tyre size, loading w heels (diameterxwidth) | | mm | 85x70 | 85x70 | 85x70 | 85x70 | 85x70 |
| 3.4 | Tyre size, caster w heels (diameterxwidth) | | mm | 130x55 | 130x55 | 130x55 | 130x55 | 130x55 |
| 3.5 | Wheels, number driving, caster/loading (x=drive w heels) | | mm | 1x +2/4 | 1x +2/4 | 1x +2/4 | 1x +2/4 | 1x +2/4 |
| 3.6 | Track width, front,driving side | b ₁₀ | mm | 634 | 634 | 634 | 634 | 634 |
| 3.7 | Track width,rear,loading side | b ₁₁ | mm | 380 | 380 | 380 | 380 | 410/495 |
| Dimensions | | | | | | | | |
| 4.1 | Height, mast lowered | h ₁ | mm | 2020 | 2020 | 2020 | 2020 | 2020 |
| 4.2 | Free lift | h ₂ | mm | 100 | 100 | 100 | 100 | 100 |
| 4.3 | Lift height | h ₃ | mm | 2950 | 2950 | 2950 | 2950 | 2950 |
| 4.4 | Height, mast extended | h ₄ | mm | 3465 | 3465 | 3465 | 3465 | 3465 |
| 4.5 | Height draw bar in driving position min./max. | h ₁₄ | mm | 1150/1480 | 1150/1480 | 1150/1480 | 1150/1480 | 1150/1480 |
| 4.6 | Low ered height | h ₁₃ | mm | 88 | 88 | 88 | 88 | 88 |
| 4.7 | Overall length | l ₁ | mm | 2035 | 2035 | 2035 | 2035 | 2035 |
| 4.8 | Length to face of forks | l ₂ | mm | 860 | 860 | 860 | 860 | 860 |
| 4.9 | Overall width | b ₁ | mm | 850 | 850 | 850 | 850 | 850 |
| 4.10 | Fork dimensions | s/ e/ l | mm | 60x190x1150 | 60x190x1150 | 60x190x1150 | 60x190x1150 | 60x190x1150 |
| 4.11 | Fork carriage width | b ₃ | mm | 800 | 800 | 800 | 800 | 800 |
| 4.12 | Distance between fork-arms | b ₅ | mm | 570 | 570 | 570 | 570 | 600/685 |
| 4.13 | Ground clearance, center of wheelbase | m ₂ | mm | 28 | 28 | 28 | 28 | 28 |
| 4.14 | Aisle width for pallets 1000 x 1200 crossways | Ast | mm | 2610/2971 | 2610/2971 | 2610/2971 | 2610/2971 | 2610/2971 |
| 4.15 | Aisle width for pallets 800 x 1200 lengthways | Ast | mm | 2580/2941 | 2580/2941 | 2580/2941 | 2580/2941 | 2580/2941 |
| 4.16 | Turning radius | Wa | mm | 1738/2099 | 1738/2099 | 1738/2099 | 1738/2099 | 1738/2099 |
| Performance data | | | | | | | | |
| 5.1 | Travel speed, laden/ unladen | | km/ h | 5.5/6.0 | 5.5/6.0 | 5.5/6.0 | 5.5/6.0 | 4.5/5.0 |
| 5.2 | Lifting speed, laden/ unladen | | m/ s | 0.13/0.16 | 0.13/0.16 | 0.13/0.16 | 0.13/0.16 | 0.1/ 0.16 |
| 5.3 | Lowering speed, laden/ unladen | | m/ s | 0.32/0.23 | 0.32/0.23 | 0.32/0.23 | 0.32/0.23 | 0.33/ 0.23 |
| 5.4 | Max. gradeability, laden/unladen | | % | 8/16 | 8/16 | 8/16 | 8/16 | 6/ 12 |
| 5.5 | Service brake type | | | Electromagnetic | Electromagnetic | Electromagnetic | Electromagnetic | Electromagnetic |
| Electric engine | | | | | | | | |
| 6.1 | Drive motor rating S2 60 min | | kW | 1.5 | 1.5 | 1.6 | 1.6 | 1.6 |
| 6.2 | Lift motor rating at S3 15% | | kW | 3 | 3 | 3.0 | 3.0 | 3.0 |
| 6.3 | The maximum allowed size battery | | mm | 834x216x630 | 834x216x630 | 834x216x630 | 834x216x630 | 834x216x630 |
| 6.4 | Battery voltage/nominal capacity K5 | | V/ Ah | 24/230 | 24/280 | 24/230 | 24/280 | 24/280 |
| 6.5 | Battery weight | | kg | 210 | 240 | 210 | 240 | 240 |
| Addition data | | | | | | | | |
| 7.1 | Type of drive unit | | | AC | AC | AC | AC | AC |
| 7.2 | Steering type | | | Mechanical Steering | Mechanical Steering | Electronic Steering | Electronic Steering | Electronic Steering |
| 7.3 | Sound pressure level at the driver's ear | | dB (A) | 74 | 74 | 74 | 74 | 74 |

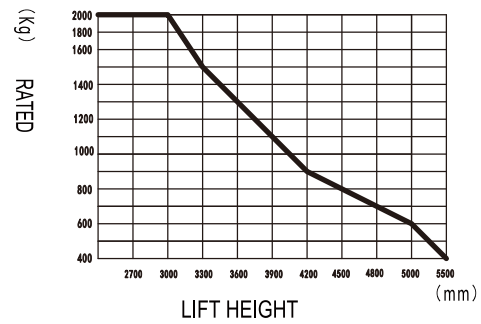
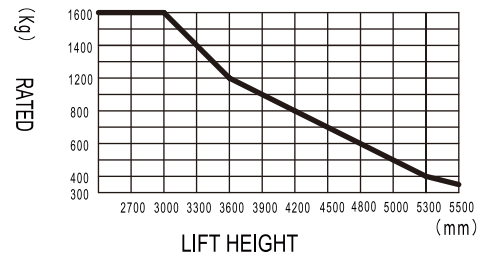
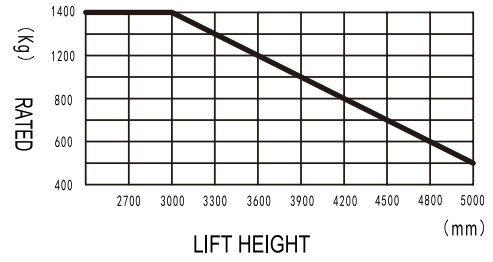
1.The parameters in the table are of the standard model. For more information, please contact us.

2.The parameters are subject to change without notice.

① This parameter is only representative of the vehicle climbing performance, actually depends on the ramp and through the left ramp angle design.



RATED CAPACITIES GRAPH



Mast Option

| mast types | Lift h3+h13 (mm) | Lowered mast height h1 (mm) | Free lift h2 (mm) | Extended mast height h4 (mm) |
|------------|------------------|-----------------------------|-------------------|------------------------------|
| Duplex ZT | 2700 | 1870 | 100 | 3165 |
| | 3000 | 2020 | 100 | 3465 |
| | 3300 | 2170 | 100 | 3765 |
| | 3600 | 2320 | 100 | 4065 |
| | 3900 | 2470 | 100 | 4365 |
| Duplex ZZ | 4190 | 2600 | 100 | 4625 |
| | 2700 | 1819 | 1320 | 3135 |
| | 3000 | 1969 | 1470 | 3435 |
| Triplex DZ | 3300 | 2119 | 1620 | 3735 |
| | 4000 | 1822 | 1390 | 4460 |
| | 4500 | 2022 | 1590 | 4960 |
| | 4800 | 2122 | 1690 | 5260 |
| | 5000 | 2187 | 1760 | 5460 |
| | 5300 | 2287 | 1840 | 5760 |
| | 5500 | 2352 | 1910 | 5910 |

Option

| | ES14-14RA/ES16-16RA | ES14-14RA 4 | ES20-20RAS |
|--------------------------------------|------------------------------------|------------------------------------|------------------------------------|
| Fork length | 750/900/1000/1300/1400/1500/1600mm | | 750/900/1000/1300/1400/1500/1600mm |
| Fork width | 720/750/800mm | | 720/750/800mm |
| | organic glass | 750/900/1000/1300/1400/1500/1600mm | organic glass |
| | PU | 720/750/800mm | PU |
| Driving wheel | Rubber/PU wheel with pattern | organic glass | Rubber/PU wheel with pattern |
| Balance wheel | | PU | |
| Battery capacity | 230AH/280AH/360AH | Rubber/PU wheel with pattern | 230AH/280AH/360AH |
| Lateral change battery | | | |
| cold storage | | 230AH/280AH/360AH | |
| Battery indicator with hour meter | | | |
| Battery indicator without hour meter | | | |
| Proportional lifting | | | |
| Height limitation | | | |
| half speed function in turning | — | | |
| Vertical handler working | — | | — |
| Side shift | — | | — |
| Water auto-filling system | | — | |
| Guard arm | | — | |

Note: standard o option —NA