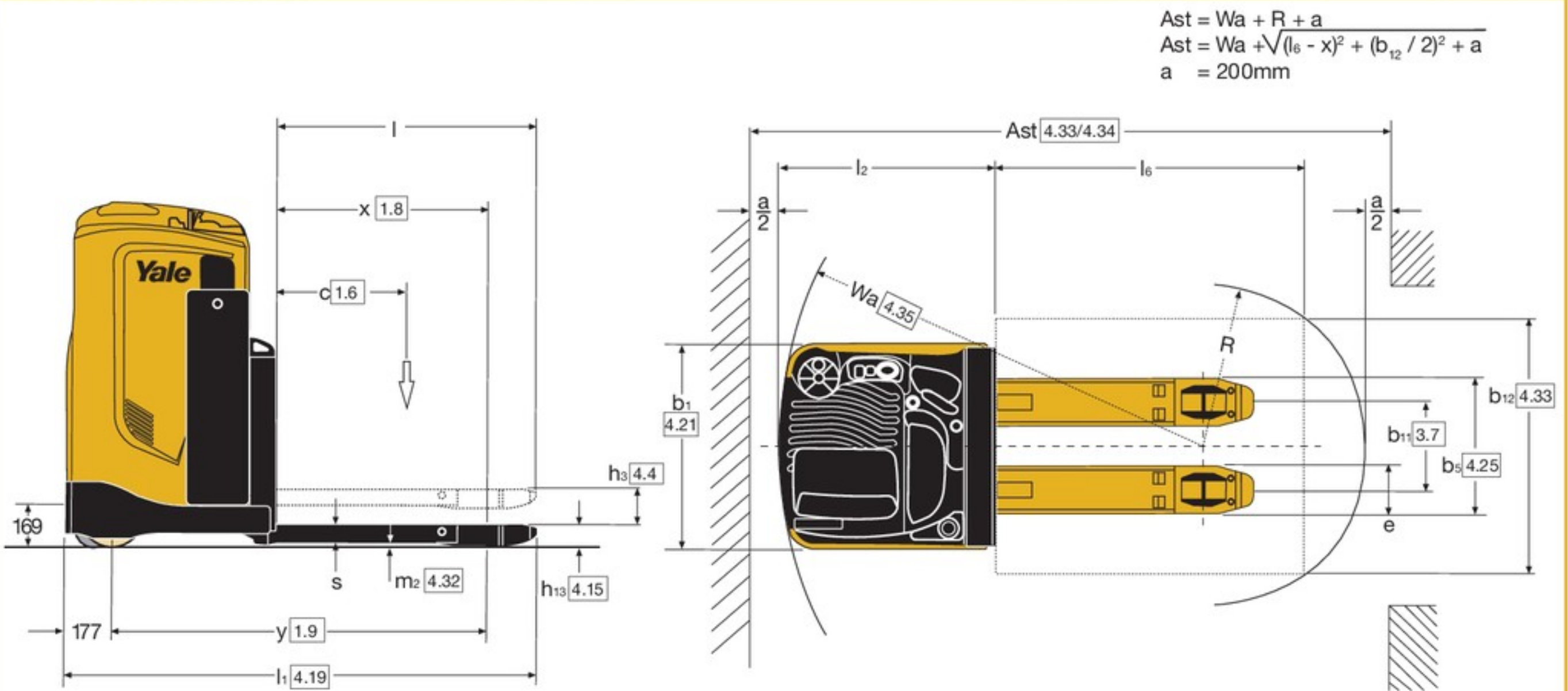


Truck Dimensions



Controls

The electronic fly-by-wire steering requires minimum effort and allows rapid manoeuvring. A spinner knob is standard.

The large dimensioned, low effort butterfly button controls direction of travel and speed as well as the opening and closing of the electromagnetic brake. Horn, lift and lower buttons are conveniently located beneath the handgrip for finger tip operation.

Seat

A contoured polyurethane fully vertically adjustable cushion seat permits seated, leaning and standing operation/support to relieve fatigue over extended travel runs.

Chassis

The pressed steel welded chassis provides fully enclosed protection for the drive train and battery. The powerhead section with independent lifting mechanism provides a particularly rigid and robust structure.

The compact chassis width of 795mm facilitates the handling of Europallet in loading/unloading applications and block storage. The low step height of 285mm facilitates easy on/off.

Forks

Adjustable pull rods provide smooth even lifting and lowering. The 120mm lift provides high ramp clearance. Load wheels and fork levers are fitted with grease points for extended service life in arduous applications. Tandem load wheels are standard. Exit and entry rollers are standard on fork lengths 1000/1150 mm.

Traction and pump control

A new generation MOSFET high

frequency COMBI controller is used to regulate both traction and pump operation. Energy efficient, smooth progressive control is available at all times.

The controller features automatic braking (reverse current braking) and regenerative braking as well as anti-rollback start-up on an incline. Automatic speed reduction when cornering is activated via the controller. The speed reduction can be adjusted for angle and force of braking. Using a plug-in console the controller can be adjusted for forward and reverse travel speeds, reverse current braking, release braking, acceleration and speed reduction when cornering. The controller features an in-built diagnostic system and alarm history as well as thermal protection.

Drive unit

The separately excited (SEM) drive motor delivers fast travel speeds in the laden/unladen condition, high start-up torque and acceleration as well as efficient running. The use of SEM motor technology eliminates forward and reverse contactors. The motor is mounted vertically for easy brush access, improved ventilation and minimum contamination from floor conditions. It is flanged directly on to a helical gear transmission running in an oil bath. The motor is fixed to reduce flexing stress to the power cables. Drive wheel is mounted automobile style to the wheel hub for easy change.

Hydraulics

A heavy duty series wound motor drives the pump. Lift/lower functions are actuated directly by a lever control via the Combi controller.

Brake

The electromagnetic brake is electrically released and spring applied. Reverse current braking is applied by inverting the direction of travel. Releasing the butterfly button induces both reverse current braking (adjustable) and regenerative braking.

The brake is opened and closed by activation of the butterfly button with the foot presence switch depressed. The brake is closed by lifting the foot off the foot presence switch.

Instrumentation

A steering wheel position indicator and a combined hourmeter/battery discharge indicator with lift interrupt are featured on the instrument panel. The indicator also displays alarm conditions should they occur. A quick disconnect traction cut-out button is mounted near the armrest.

Options

A comprehensive range of options including fork lengths and widths, side battery removal table and battery change trolley, is available.

VDI 2198 – General Specifications

| | | | | | |
|---------------------|--------|--|---------------------------------------|-----------------------|-----------------------|
| Distinguishing mark | 1.1 | Manufacturer (abbreviation) | | Yale | Yale |
| | 1.2 | Manufacturer's type designation | | MP20T | MP25T |
| | 1.3 | Drive: electric (battery or mains), diesel, petrol, fuel gas | | Electric (battery) | Electric (battery) |
| | 1.4 | Operator type: hand, pedestrian, standing, seated, order-picker | | Stand | Stand |
| | 1.5 | Rated capacity/Rated load | Q (t) | 2000 | 2500 |
| | 1.6 | Load centre distance ⁽¹⁾ | c (mm) | 600 ⁽²⁾ | 600 ⁽²⁾ |
| | 1.8 | Load distance, centre of drive axle to fork ⁽¹⁾ | x (mm) | 965 | 965 |
| | 1.9 | Wheelbase ⁽¹⁾ | y (mm) | 1628 | 1628 |
| Weights | 2.1 | Service weight ⁽¹⁾ | kg | 1010 | 1010 |
| | 2.2 | Axle loading, laden front/rear | kg | 1202 / 1808 | 1314 / 2196 |
| | 2.3 | Axle loading, unladen front/rear | kg | 755 / 255 | 755 / 255 |
| Tyres/chassis | 3.1 | Tyres: polyurethane, tophane, vulkollan, front/rear | | Vulkollan / Vulkollan | Vulkollan / Vulkollan |
| | 3.2 | Tyre size, front | ø (mm x mm) | 254 x 90 | 254 x 90 |
| | 3.3 | Tyre size, rear | ø (mm x mm) | 85 x 90 | 85 x 90 |
| | 3.4 | Additional wheels (dimensions) | ø (mm x mm) | 150 x 60 | 150 x 60 |
| | 3.5 | Wheels, number front/rear (x = driven wheels) | | 1x + 1 / 4 | 1x + 1 / 4 |
| | 3.6 | Tread, front | b ₁₀ (mm) | 492 | 492 |
| | 3.7 | Tread, rear ⁽¹⁾ | b ₁₁ (mm) | 346 | 346 |
| Dimensions | 4.4 | Lift | h ₃ (mm) | 120 | 120 |
| | 4.8 | Height of seat / platform | h ₇ (mm) | 927 / 293 | 927 / 293 |
| | 4.15 | Height, lowered | h ₁₃ (mm) | 85 | 85 |
| | 4.19 | Overall length ⁽¹⁾ | l ₁ (mm) | 1996 | 1996 |
| | 4.20 | Length to face of forks ⁽¹⁾ | l ₂ (mm) | 840 | 840 |
| | 4.21 | Overall width | b ₁ /b ₂ (mm) | 798 | 798 |
| | 4.22 | Fork dimensions DIN ISO 2331 ⁽¹⁾ | s/e/l (mm) | 60 / 184 / 1156 | 60 / 184 / 1156 |
| | 4.25 | Distance over fork-arms ⁽¹⁾ | b ₅ (mm) | 530 | 530 |
| | 4.32 | Ground clearance, centre of wheelbase | m ₂ (mm) | 25 | 25 |
| | 4.33 | Load dimension b ₁₂ x l ₆ lengthwise | b ₁₂ x l ₆ (mm) | 800 x 1200 | 800 x 1200 |
| | 4.34 | Aisle width predetermined load dimensions | A _{st} (mm) | 2465 | 2465 |
| | 4.34.1 | Aisle width for pallets 1000mm x 1200mm crossways ^{(1) (5)} | A _{st} (mm) | 2554 | 2554 |
| | 4.34.2 | Aisle width for pallets 800mm x 1200mm lengthwise ^{(1) (5)} | A _{st} (mm) | 2465 | 2465 |
| Performance data | 4.35 | Turning radius ⁽¹⁾ | W _a (mm) | 1801 | 1801 |
| | 5.1 | Travel speed, laden/unladen | km/h | 9.5 / 12.5 | 9.5 / 12.5 |
| | 5.1.1 | Travel speed, laden/unladen, backwards | km/h | 9.5 / 9.5 | 9.5 / 9.5 |
| | 5.2 | Lift speed, laden/unladen | m/s | 0.027 / 0.037 | 0.020 / 0.037 |
| | 5.3 | Lowering speed, laden/unladen | m/s | 0.064 / 0.030 | 0.064 / 0.030 |
| | 5.8 | Max. gradeability, laden/unladen | % | 10.0 / 24.5 | 8.3 / 24.5 |
| | 5.9 | Acceleration time, laden/unladen (forks trailing) | s | 6.6 / 4.8 | 7.1 / 4.8 |
| Electric engine | 5.10 | Service brake | | Electro Magnetic | Electro Magnetic |
| | 6.1 | Drive motor S2 60 minute rating | kW | 2.6 | 2.6 |
| | 6.2 | Lift motor, S3 15% rating | kW | 1.2 | 1.2 |
| | 6.3 | Battery according to DIN 43531/35/36 A,B,C, no | | no | no |
| | 6.4 | Battery voltage/nominal capacity K5 | (V)/(Ah) | 24 / 465 | 24 / 465 |
| | 6.5 | Battery weight ⁽³⁾ | kg | 366 | 366 |
| | 6.6 | Energy consumption according to VDI cycle ⁽⁴⁾ | kWh/h at no. of cycles | 0.4 | 0.4 |
| | 8.1 | Type of drive unit | | AC Controller | AC Controller |
| | 10.7 | Sound pressure level at the driver's seat | dB (A) | 82.5 | 82.5 |

⁽¹⁾ See Forks table

⁽²⁾ Applies to one pallet = 1200mm

⁽³⁾ These values may vary of +/- 5%.

⁽⁴⁾ Values obtained with 40 cycles

⁽⁵⁾ Stacking aisle width (lines 4.34.1 & 4.34.2) are based on the VDI standard calculation as shown on illustration.

The British Industrial Truck Association recommends the addition of 100mm to the total clearance (dimension a) for extra operating margin at the rear of the truck.

Fork dimensions

b₅ = 480 - 530 - 560 - 670 mm, b₁₁ = 346 mm

| | c | l | x ⁽¹⁾ | l-x | l ₆ | b ₁₂ | R | y ⁽¹⁾ | l ₂ | l ₁ | Wa ⁽¹⁾ | a | Ast ⁽²⁾ | Fork weights ⁽³⁾ |
|----------|------|------|------------------|-----|----------------|-----------------|------|------------------|----------------|----------------|-------------------|-----|--------------------|-----------------------------|
| | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | kg |
| | 500 | 1006 | 815 | 191 | 1200 | 800 | 555 | 1478 | 840 | 1846 | 1654 | 200 | 2409 | 147 |
| | 600 | 1156 | 965 | 191 | 1200 | 1000 | 552 | 1628 | 840 | 1996 | 1801 | 200 | 2554 | 156 |
| | 700 | 1406 | 965 | 441 | 1200 | 800 | 464 | 1628 | 840 | 2246 | 1801 | 200 | 2465 | 165 |
| | 800 | 1606 | 965 | 641 | 1200 | 800 | 464 | 1628 | 840 | 2446 | 1801 | 200 | 2465 | 173 |
| | 1000 | 1956 | 1405 | 551 | 2000 | 1200 | 845 | 2068 | 840 | 2796 | 2236 | 200 | 3281 | 204.5 |
| | 1100 | 2156 | 1405 | 751 | 2400 | 800 | 1072 | 2068 | 840 | 2996 | 2236 | 200 | 3508 | 212.5 |
| | 1500 | 2856 | 1860 | 996 | 3000 | 1200 | 1288 | 2523 | 840 | 3696 | 2688 | 200 | 4176 | 249 |
| UK | 1000 | 1956 | 1356 | 600 | 2000 | 1200 | 880 | 2019 | 840 | 2796 | 2188 | 200 | 3268 | 205.5 |
| | 1100 | 2156 | 1356 | 800 | 2400 | 800 | 1118 | 2019 | 840 | 2996 | 2188 | 200 | 3506 | 213.5 |
| | 1200 | 2356 | 1650 | 706 | 2400 | 800 | 850 | 2313 | 840 | 3196 | 2479 | 200 | 3529 | 227 |
| UK short | 1200 | 2356 | 1405 | 951 | 2400 | 800 | 1072 | 2068 | 840 | 3196 | 2236 | 200 | 3387 | 220.5 |
| UK long | 1200 | 2356 | 1860 | 496 | 2400 | 800 | 672 | 2523 | 840 | 3196 | 2687 | 200 | 3383 | 229 |

⁽¹⁾ With fork lowered - for forks raised -68mm. ⁽²⁾ Aisle width for pallets lengthwise. ⁽³⁾ All weights are: forks + tie rods.