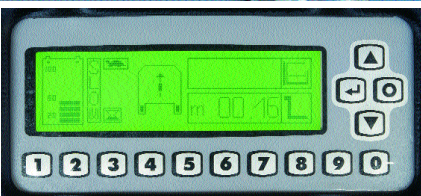
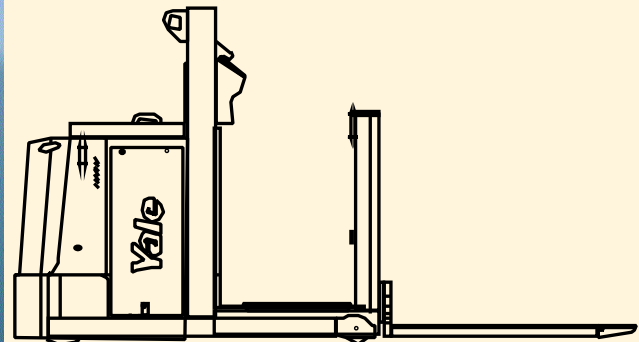


# Low/Mid Level Order Picker 1,000kg

Yale

MO10E



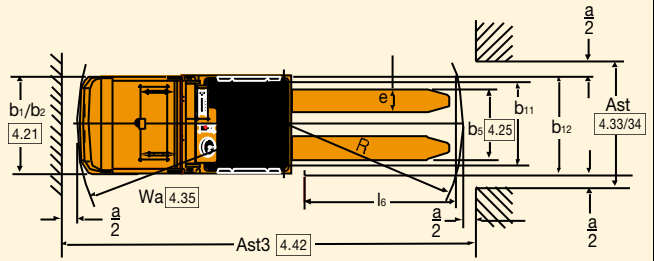
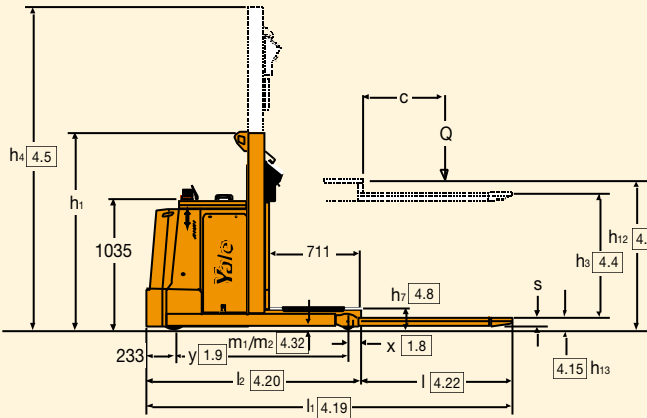
- Incorporating Yale AC, CANbus and COMBI controller technology.
- Fixed fork, supplementary lift and walk on pallet cage models available.
- Compact chassis widths.
- Low step height and cushioned all sensitive operator presence platform to optimise driver comfort and flexibility.
- 4 pre-set performance settings to suit driver / application preference.

# Truck Dimensions

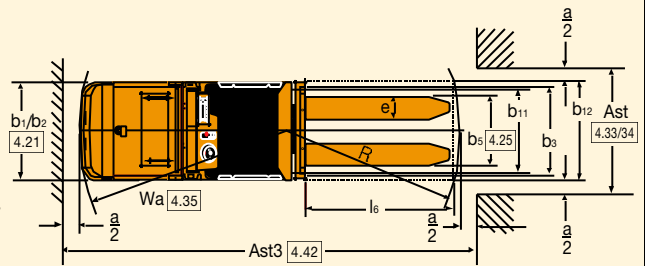
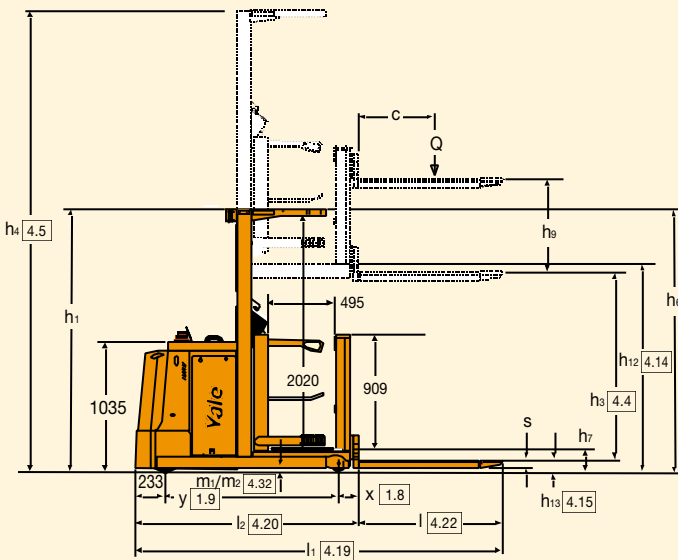
$$\text{Ast3} = \text{Wa} + \text{R} + \text{a}$$

$$\text{a} = 200\text{mm}$$

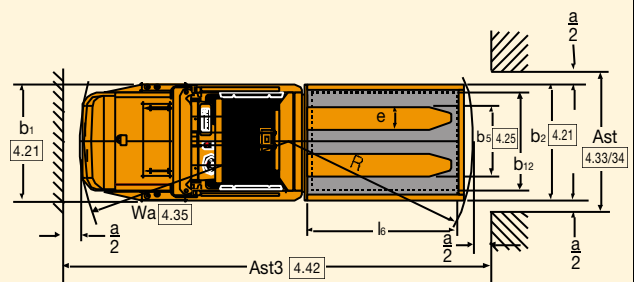
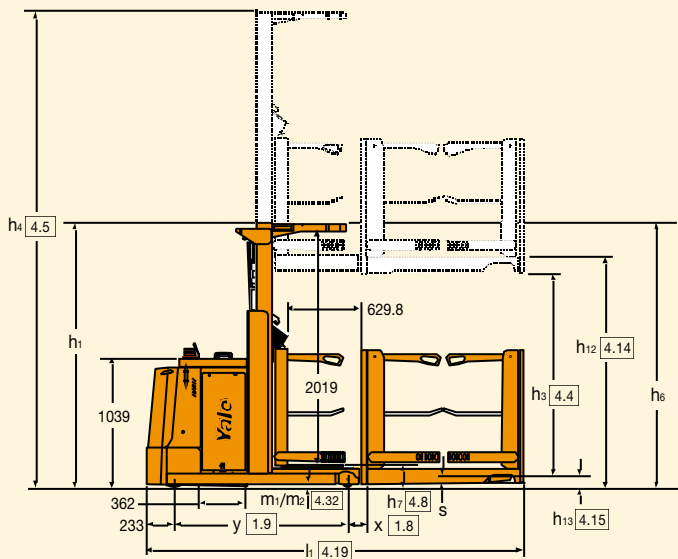
**MO10E 12**



**MO10E 17-SL  
(MO10E 12-SL)  
(MO10E 32-SL)**



**MO10E 32-WP  
(MO10E 17-WP)**



## VDI 2198 - General Specifications

		Yale	Yale	Yale	Yale	Yale	Yale	
Characteristics	1.1 Manufacturer		Yale	Yale	Yale	Yale	Yale	
	1.2 Model designation		<b>MO10E12</b>	<b>MO10E12SL</b>	<b>MO10E17SL</b>	<b>MO10E32SL</b>	<b>MO10E17WP</b>	<b>MO10E32WP</b>
	1.3 Power: Battery, Diesel, LPG, Electric mains		Battery	Battery	Battery	Battery	Battery	Battery
	1.4 Operation: Manual, pedestrian, stand-on, seated, order picker		Stand-on	Stand-on	Stand-on	Stand-on	Stand-on	Stand-on
	1.5 Load capacity	Q (t)	1.0	1.0	1.0	1.0	0,8	0,8
	1.6 Load centre	c (mm)	600	600	600	600	600	600
	1.8 Load distance <sup>(1)</sup>	x (mm)	95	164	164	157	157	170
	1.9 Wheelbase	y (mm)	1390	1390	1390	1510	1390	1510
	Weights	2.1 Unladen weight	kg	1600	1700	1800	1950	2000
2.2 Axle loading laden, front/rear		kg	350/2250	350/2350	350/2450	450/2500	350/2650	450/2700
2.3 Axle loading unladen, front/rear		kg	900/700	950/750	950/850	1050/900	950/1050	1050/1100
Wheels and Tyres	3.1 Tyres - rubber, polyurethane, Vulkollan, front/rear		Vulkollan / Vulkollan	Vulkollan / Vulkollan	Vulkollan / Vulkollan	Vulkollan / Vulkollan	Vulkollan / Vulkollan	Vulkollan / Vulkollan
	3.2 Tyre size - front		ø 254 x 125	ø 254 x 125	ø 254 x 125	ø 254 x 125	ø 254 x 125	ø 254 x 125
	3.3 Tyre size - rear		ø 125 x 94	ø 125 x 94	ø 125 x 94	ø 125 x 94	ø 125 x 94	ø 125 x 94
	3.5 Wheels - number front/rear (x = driven)		1x/2	1x/2	1x/2	1x/2	1x/2	1x/2
	3.6 Track width, front	b <sub>10</sub> (mm)	-	-	-	-	-	-
	3.7 Track width, rear	b <sub>11</sub> (mm)	660	660	660	830	660	830
	Dimensions	4.2 Height of mast, lowered (Cab)	h <sub>1</sub> (mm)	1570	1570	2270	2280	2270
4.3 Free lift		h <sub>2</sub> (mm)	-	-	-	-	-	-
4.4 Lift height		h <sub>3</sub> (mm)	1020	1020	1520	3030	1520	3030
4.5 Height of mast, extended <sup>(2)</sup>		h <sub>4</sub> (mm)	2590	2590	3790	5300	3790	5300
4.7 Overhead guard height <sup>(2)</sup>		h <sub>6</sub> (mm)	-	-	2270	2270	2270	2270
4.8 Platform height		h <sub>7</sub> (mm)	170	170	170	170	170	170
4.11 Auxillary lift		h <sub>9</sub> (mm)	-	690	690	690	-	-
4.14 Height, platform raised		h <sub>12</sub> (mm)	1190	1190	1690	3200	1690	3200
4.15 Lowered height <sup>(3)</sup>		h <sub>13</sub> (mm)	90	90	90	90	90	90
4.19 Overall length <sup>(4)</sup>		l <sub>1</sub> (mm)	2873	2927	2927	3040	3090	3203
4.20 Length to face of forks <sup>(5)</sup>		l <sub>2</sub> (mm)	1718	1787	1787	1900	1780	1893
4.21 Overall width <sup>(6)</sup>		b <sub>1</sub> /b <sub>2</sub> (mm)	780	780	780	950	780/1000	950/1000
4.22 Fork dimensions <sup>(5)</sup>		s/e/l (mm)	180/60/1155	180/60/1140	180/60/1140	180/60/1140	180/60/1140	180/60/1140
4.23 Fork carriage DIN 15173, Class/form A, B			-	-	-	-	-	-
4.24 Fork carriage width <sup>(6)</sup>		b <sub>3</sub> (mm)	-	700	700	700	-	-
4.25 Outside fork width min/max <sup>(7)</sup>		b <sub>5</sub> (mm)	525	560	560	560	560	560
4.27 Width over guide rollers		b <sub>6</sub> (mm)	-	-	-	-	-	-
4.31 Ground clearance under mast, laden		m <sub>1</sub> (mm)	30	30	30	30	30	30
4.32 Ground clearance, centre of wheelbase		m <sub>2</sub> (mm)	30	30	30	30	30	30
4.33 Aisle width for pallets 1000 x 1200 wide VDI 2198		Ast (mm)	1400	1400	1400	1400	1600	1600
4.34 Aisle width for pallets 800 x 1200 long VDI 2198 <sup>(8)</sup>	Ast (mm)	1000	1000	1000	1150	1200	1200	
4.35 Turning radius	Wa (mm)	1637	1637	1637	1755	1637	1755	
4.42 Transfer aisle width with pallet 800 x 1200 long (Wa + R + a)	Ast3(mm)	3192	3258	3258	3370	3395	3513	
Performance	5.1 Travel speed laden/unladen	km/h	9,5 / 9,8	9,5 / 9,8	9,5 / 9,8	9,5 / 9,8	9,5 / 9,8	9,5 / 9,8
	5.2 Lift speed, laden/unladen (Cab)	m/s	0.20 / 0.25	0.20 / 0.25	0.20 / 0.25	0.18 / 0.23	0.18 / 0.23	0.18 / 0.23
	5.2 Lift speed, laden/unladen (SL)	m/s	-	0.16 / 0.22	0.16 / 0.22	0.16 / 0.22	-	-
	5.3 Lowering speed, laden/unladen (Cab)	m/s	0.25 / 0.25	0.25 / 0.25	0.25 / 0.25	0.25 / 0.25	0.25 / 0.25	0.25 / 0.25
	5.3 Lowering speed, laden/unladen (SL)	m/s	-	0.25 / 0.11	0.25 / 0.11	0.25 / 0.11	-	-
	5.7 Gradeability, laden/unladen <sup>(9)</sup>	%	5 / 8	5 / 8	5 / 8	5 / 8	5 / 8	5 / 8
	5.8 Max. gradeability, laden/unladen <sup>(9)</sup>	%	5 / 8	5 / 8	5 / 8	5 / 8	5 / 8	5 / 8
	5.9 Acceleration time (10 mt) laden/unladen <sup>(10)</sup>	s	5,5 / 7,5	5,5 / 7,5	6 / 8	6 / 8	6 / 8	6 / 8
	5.10 Service brake		el.magnetic	el.magnetic	el.magnetic	el.magnetic	el.magnetic	el.magnetic
	Motors	6.1 Drive motor rating (S2 60 min)	kW	3	3	3	3	3
6.2 Lift motor rating (S3 15%)		kW	3	3	3	3	3	3
6.3 Battery according to DIN 43531/35/36 A, B, C, no			DIN 43535 B	DIN 43535 B	DIN 43535 B	DIN 43535 B	DIN 43535 B	DIN 43535 B
6.4 Battery voltage/capacity (5 hour rate)		V/Ah	24/560	24/560	24/560	24/560	24/560	24/560
6.5 Battery weight (+/- 5%)		kg	500-530	500-530	500-530	500-530	500-530	500-530
6.6 Consumptions according to VDI cycle		kWh/h	/	/	/	/	/	/
Other	8.1 Drive control		Mosfet	Mosfet	Mosfet	Mosfet	Mosfet	Mosfet
	8.8 Average noise level at operator's ear	dB (A)	< 70	< 70	< 70	< 70	< 70	< 70

- (1) SL model: with Fem carriage and 80mm x 30mm forks, + 20mm. With Fem carriage and 100mm x 35mm forks, + 25mm.
- (2) Models with Over Head Guard: with lift interrupt mounted on OHG, h<sub>6</sub> + 80mm
- (3) SL model: with Fem carriage and 80mm x 30mm forks, h<sub>13</sub> = 35 mm. With Fem carriage and 100mm x 35mm forks, h<sub>13</sub> = 40 mm.
- (4) SL model: with Fem carriage, b<sub>2</sub> = 800mm
- (5) SL model: also available with Fem carriage and 80mm x 30mm forks, 600Kg @ 600mm, 800Kg @ 500 mm, 1000Kg @ 400mm. With FEM carriage and 100mm x 35mm forks, 1000Kg @ 600mm available.
- (6) SL model: with Fem carriage, b<sub>3</sub> = 800mm
- (7) SL model: with Fem carriage and 80mm x 30mm forks, b<sub>5</sub> = 753mm. With Fem carriage and 100mm x 35mm forks, b<sub>5</sub> = 773mm.
- (8) Other AST values available. Please contact Special Product Engineering Department.
- (9) Values determined by wheel friction, if climbing ramps frequently (within 1h), consult your salesman.
- (10) Acceleration 4 preset values (Standard, soft, medium and hard) available, selectable directly by the operator.

## Models:

### **MO10E 12, MO10E 12-SL, MO10E 17-SL, MO10E 32-SL MO10E 17-WP, MO10E 32-WP**

**The MO10E 12 Model** has a maximum cabin platform lifting height of 1200mm. The standard platform is open on three sides for direct access to the pallet/load. The forks are welded directly to the cabin floor structure.

**The SL Models** with platform lifting heights of 1200mm, 1700mm and 3200mm feature pallet/load auxiliary lift.

**The MO10E WP Models** have fixed forks, welded directly to the cabin floor structure, with platform lifting heights of 1700mm and 3200mm. The compartment is fitted with closing side gates forming an enclosed cage around the pallet, and the cabin has its own gates for operator access and egress. The WP models also incorporate an engaged pallet sensor, which prevents lifting above 1200mm with empty forks.

#### **Controls**

The controls are located between the mast uprights, maximising the walk through area of the platform for easy pick-face access either side of the aisle. The platform is cushioned to absorb vibrations and incorporates an operator presence switch over the entire surface area, removing the frustrating search for the traditional enabling switch. The low step height further aids driver comfort and productivity.

#### **Graphic display**

The graphic display is readable under all light conditions and contains a wealth of information regarding the truck status, including;

- steer wheel position indicator
- cabin platform height indicator
- traction and/or lifting-lowering speed
- fault display
- battery discharge indicator

Further information on technical services and functions is accessible with a few clicks, for example;

- sensor tests
- PIN code insertion (pin codes available for up to 5 operators)
- adjustable height pre-selector

#### **Steering**

The standard electric steering system with “fly-by-wire” technology

incorporates a high efficiency AC motor while the ergonomically designed steering wheel is adjustable for enhanced steering feedback. The self-centring steering mechanism works automatically when the truck is turned on, when the creep speed advance mode is activated, or via a push button on the control panel.

#### **Creep Speed Advance**

The “pedestrian mode” creep speed function allows the operator to advance the truck, and lift or lower the platform (and forks on the SL model) while on the ground next to the truck.

#### **Supplementary lift (SL)**

The supplementary carriage/forks are mounted on a bulkhead fitted to the operator’s compartment and provide auxiliary lift. The materials handling interface and/or load can be raised or lowered to maintain a constant comfortable working height throughout the pick routine, reducing bending and stretching for the operator. The auxiliary lift/lower control requires two-handed operation.

#### **Walk on Pallet cage (WP)**

This walk on pallet cage model allows direct access to the pallet at heights over 1200mm. Access to the pallet is provided via spring assisted swing-up gates from the operator’s compartment. The cage is a strong metal structure which surrounds the pallet, and features 2 swing-up gates on either side allowing full pick face access from floor level. An additional retention rail is fitted at the load end of the cage. A fork-mounted pallet-sensing switch prevents traction/lifting above 1200mm raised platform height with empty forks. The side and cabin gates are interlocked and must be deployed above this height for traction.

#### **Masts**

The sturdy mast section is an integral part of the chassis, and the adjustable bearings guarantee smooth operation and tolerance are maintained.

#### **Traction**

The SEM traction motor delivers fast travel speeds, with virtually no difference in unladen and laden performance whilst retaining low

running temperatures. The fixed motor and vertically mounted drive unit eliminate flexing stresses to the power cables to ensure reduced down time.

The electronic MOSFET combi controller manages traction and hoist, offering excellent management of power and consumption, acceleration and regenerative braking with considerable savings on energy. In addition 4 pre-set performance modes (slow, soft, standard and hard), selectable by the driver, offer flexibility for operational variations and conditions, whilst other parameters are easily customised by a service technician. Self-diagnostics and thermal protection are also features of the controller.

#### **Hydraulic system**

The pump motor guarantees consistent performance and the Combi MOSFET control offers proportional handling for lifting and lowering movements with efficient, smooth starting and stopping. The integral and transparent plastic hydraulic tank allows easy checking of the oil level.

#### **Braking**

The motor brakes automatically when the butterfly control is released, and auto regenerative braking is standard across the range. An electromagnetic parking brake activates automatically whilst the truck is stopped. Emergency braking is carried out with a fingertip control, which activates a specific emergency engine-braking programme together with enforcement of the electromagnetic brake, resulting in considerably reduced stopping distances. If the operator leaves the platform, the emergency brake activates immediately.

#### **Batteries**

The MO10E is a 24V machine, with 560 Ah to 640 Ah battery capacities.

The battery is mounted on rollers to facilitate extraction from either side, with a battery removal trolley for double shift operation optionally available.

#### **Optional extras**

A wide range of options is available. Consult your local Yale dealer for further details.



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**Safety.** This truck conforms to the current EU requirements. Specification is subject to change without notice

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Publication part no. 258985565 Rev.01  
Printed in The United Kingdom (110350/569HG) EN

Truck shown with optional equipment