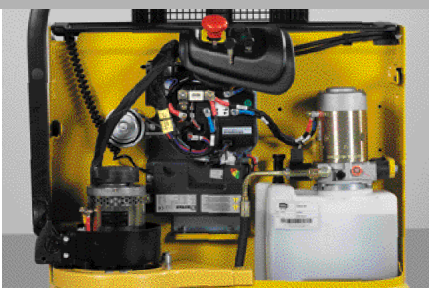
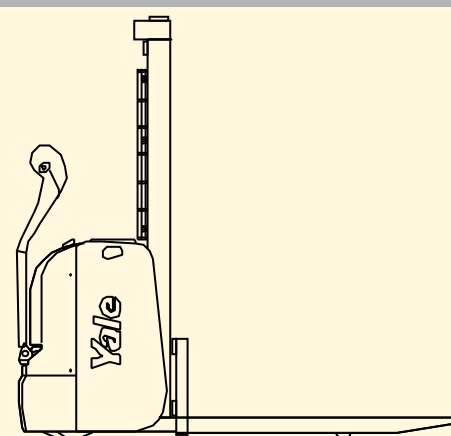




# Pedestrian Tiller Stacker

Capacity 1,000kg



- Electric pedestrian stacker
- COMBI-MOSFET control
- SEM drive motor
- 24 Volt battery
- On board battery charger



VDI 2198 - General Specifications				
Characteristics	1.1	Manufacturer	Yale	
	1.2	Model designation	<b>MS10E</b>	
	1.3	Power: battery, diesel, LPG, electric mains	battery	
	1.4	Operation: manual, pedestrian, stand-on, seated	pedestrian	
	1.5	Load capacity	Q (t)	1
	1.6	Load centre	c (mm)	600
	1.8	Load distance	x (mm)	677 <sup>(1)</sup>
	1.9	Wheelbase	y (mm)	1225
	Weights	2.1	Unladen weight	kg
2.2		Axle loading with load, front/rear	kg	555 - 1190
2.3		Axle loading without load, front/rear	kg	515 - 230
Wheels & Tyres	3.1	Tyres: rubber, polyurethane	front/rear	poly - poly
	3.2	Tyre size, front		230 x 75
	3.3	Tyre size, rear		85 x 74.5
	3.4	Additional wheels (dimensions)		150 x 50
	3.5	Wheels, number front/rear ( x = driven)		1x - 1/2
	3.6	Track width, front	b10 (mm)	515
	3.7	Track width, rear	b11 (mm)	420
Dimensions	4.2	Height of mast, lowered	h1 (mm)	see table
	4.3	Free lift	h2 (mm)	see table
	4.4	Lift height	h3 (mm)	see table
	4.5	Height of mast, extended	h4 (mm)	see table
	4.6	Initial lift	h5 (mm)	see table
	4.15	Lowered height	h13 (mm)	85
	4.8	Height of tiller arm in working position min./max.	h14 (mm)	695 / 1196
	4.19	Overall length	l1 (mm)	1892 <sup>(2)</sup>
	4.20	Length to face of forks	l2 (mm)	732 <sup>(2)</sup>
	4.21	Overall width	b1/b2 (mm)	800
	4.22	Fork dimensions	s/e/l (mm)	65-180-1160
	4.24	Fork carriage width	b3 (mm)	675
	4.25	Outside fork width	b5 (mm)	570
	4.31	Ground clearance under mast, with load	m1 (mm)	30
	4.32	Ground clearance centre of wheelbase	m2 (mm)	20
4.33	Aisle width with pallets 1000 x 1200 crossways	Ast (mm)	2242 <sup>(3)</sup>	
4.34	Aisle width with pallets 800 x 1200 lengthwise	Ast (mm)	2386 <sup>(3)</sup>	
4.35	Turning radius	Wa (mm)	1528	
Performance	5.1	Travel speed with/without load	kmh	5.6 / 6.0
	5.2	Lift speed with/without load	m/s	0.10 / 0.20
	5.3	Lowering speed with/without load	m/s	0.2 / 0.25
	5.8	Max. gradeability, with/without load	%	8 / 10
	5.10	Service brake		Electromagnetic
Motor	6.1	Drive motor, S2 60 minute rating	kW	1
	6.2	Lifting motor, S3 15% rating	kW	2
	6.3	Battery DIN 43531/35/36 A,B,C, no- IEC-254-2 A-B-C-		no
	6.4	Battery voltage/capacity at 5 hour rate	V/Ah	24 / 150
	6.5	Battery weight	kg	150
Other	8.1	Drive control		MOSFET
	8.4	Noise peak at operator's ears	dB (A)	65

<sup>(1)</sup> + 37 mm 1 stage mast

<sup>(2)</sup> - 37 mm 1 stage mast

<sup>(3)</sup> - 29 mm 1 stage mast

## Models: MS10E

### Tiller Head

The tiller head offers superior comfort and protection to the operator's hands. Large-dimensioned and well-proportioned butterfly controls facilitate operation even when wearing heavy-duty gloves. All of the tiller head controls are easy to operate with either hand: the butterfly buttons for direction and speed, the dual controls for lifting and lowering the forks, and the horn and creep speed control with vertical tiller position, which are located centrally. The large, red travel direction inverter button is designed for maximum angle of contact with the operator's body. When activated, the direction of travel is automatically reversed and the truck comes to a stop.

### Steering

The long tiller arm requires minimum steering effort, making it light and easy to steer in all working situations, even with the tiller head in a vertical position.

### Driving position

The length of the tiller arm allows the operator to find his/her own driving position, facilitating good visibility when manoeuvring and keeping the driver's body away from the chassis of the truck. The starter key, quick disconnect and Battery Discharge Indicator are top & centrally mounted on the front cover for high visibility.

### Chassis and forks

The pressed steel welded chassis is surface treated and painted with a two-component epoxy paint. The chassis width of 800 mm facilitates the handling of loads on europallets in aisles, for example in block stacking operations. The forks have a low profile of just 65mm to facilitate the loading/unloading of non-standardised loads. The robust forks are made with two solid longitudinal members covered with a closing and reinforcing sheet. The fork tips are shaped to facilitate pallet entry.

### Masts

Built for durability and equipped with canted rollers, a choice of three mast

heights with single stage and double stage masts are available.

The structure of the particularly robust but narrow mast allows optimum visibility to the sides during stacking operations. A protective wire mesh guard is fitted to the operator's side of the masts.

### Battery

The 24 V battery has a capacity of 150 Ah providing extended use in operation. The battery charger is built into the truck.

### Rollers and wheels

All the wheels are made from polyurethane. The load wheels are single. The drive and caster wheels are situated inside the chassis for maximum protection, whilst facilitating manoeuvrability and stability.

### Electric motors

The powerful 1 kW SEM traction motor guarantees an excellent response to operating commands and maintains sufficient torque in various situations. Maintenance is limited, with inspection intervals recommended every 500 hours of service for a long operational life. The lift motor is a 2kW DC compound motor, which makes light work of any workload.

### Gear train and steering

The cast iron gear train runs immersed in an oil bath. The gearing is designed to provide maximum performance in every working situation. The motor is mounted vertically for efficient ventilation. The steering is effected directly via the tiller head.

### Hydraulic unit

Activated by the electric motor, the powerful hydraulic lift pump is of double gear type for silent operation. The transparent oil tank facilitates checking of the hydraulic oil level. Lowering is controlled by a solenoid valve activated directly by the tiller pushbuttons.

### Electronic controls

The Combi MOSFET controller regulates both the SEM traction motor and the DC lift motor. The use of

MOSFET technology eliminates the need for electrical contactors. The high efficiency of the electronic controller combined with the high output from the electric motors allows for considerable battery performance. The characteristics of the traction motor and control panel facilitate the use of effective reverse current and regenerative braking on release of the butterfly buttons, without impairing energy efficiency, leaving electromagnetic braking for use only when parking and in emergencies. All of the parameters relating to the electronic panel can be adjusted by our service engineers using a console or PC, either for maintenance or if personalisation of the parameters is required.

### Options

- B.D.I. (Battery discharge indicator). (Multi device information)
- Load Backrest (standard on simplex masts).



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

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