

MC series

1,000kg / 1,250kg / 1,500kg

Counterbalanced Stacker



- Servo power steering
- Dual-Combi MOSFET
- Yale AC Technology
- AC drive motor
- 24V/300 - 400 Ah battery
- Rider or pedestrian operation

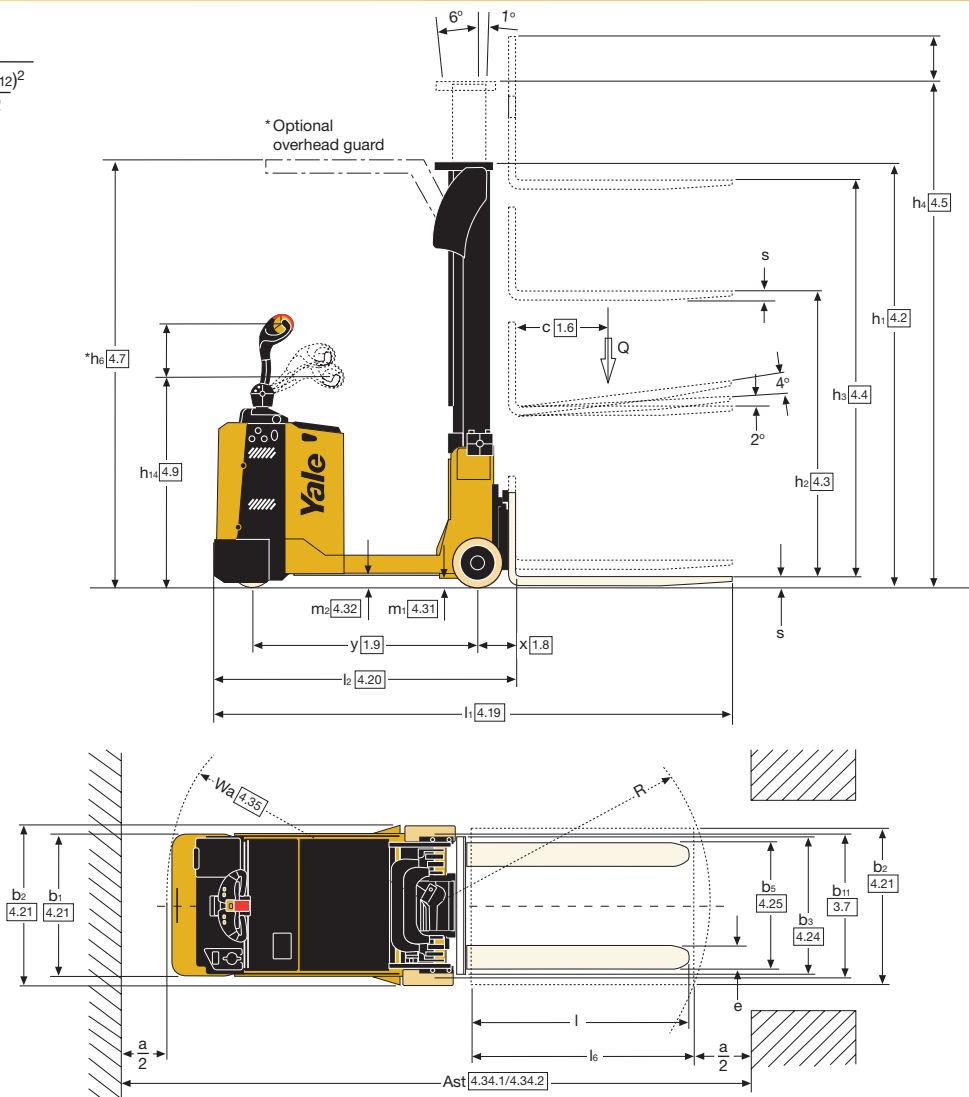
Truck Dimensions

$$Ast = Wa + R + a$$

$$R = \sqrt{(l_6 + x)^2 + \frac{(b_{12})^2}{2}}$$

a = 200

l_6 = Load length

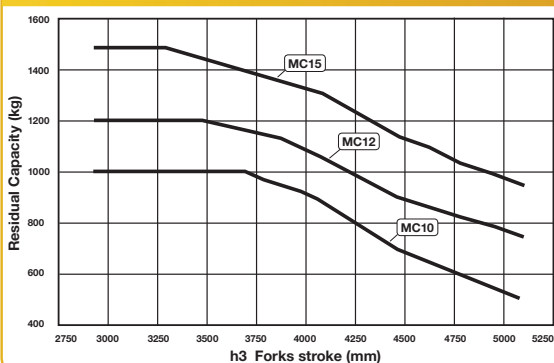


Mast dimensions

Mast type	h_1 (mm) ⁽¹⁾	h_2 (mm)	h_3 (mm)	h_4 (mm) ⁽²⁾	h_6 (mm) (opt.)
2 stage	1925	-	2572	3161	-
	2125	-	2972	3561	2262
	2325	-	3372	3961	2312
	2475	-	3672	4261	2412
	2675	-	4072	4661	2612
3 stage	1875	1305	3876	4451	-
	1975	1405	4176	4751	-
	2125	1555	4626	5201	2312
	2275	1705	5076	5651	2312

⁽¹⁾ With free lift of 100mm ⁽²⁾ With load backrest for carriage $h_4 + 461$ mm

Capacities graph



VDI 2198 – General Specifications

Distinguishing mark	1.1	Manufacturer (abbreviation)		Yale	Yale	Yale	Yale	Yale
	1.2	Manufacturer's type designation		MC10	MC12	MC15	MC10	MC12
	1.3	Drive: electric (battery or mains), diesel, petrol, fuel gas		Battery	Battery	Battery	Battery	Battery
	1.4	Operator type: hand, pedestrian, standing, seated, order-picker		Pedestrian	Pedestrian	Pedestrian	Stand on	Stand on
	1.5	Rated capacity/Rated load	Q (t)	1.0	1.2	1.5	1.0	1.2
	1.6	Load centre distance	c (mm)	500	500	500	500	500
	1.8	Load distance, centre of drive axle to fork	x (mm)	211	211	211	211	211
	1.9	Wheelbase	y (mm)	1300	1450	1600	1300	1450
	Weights	2.1	Service weight ⁽³⁾	kg	2180 ⁽⁵⁾	2280	2360	2210 ⁽⁵⁾
2.2		Axle loading, laden front/rear	kg	520 / 2660	545 / 2935	515 / 3345	530 / 2680	555 / 2955
2.3		Axle loading, unladen front/rear	kg	1175 / 1005	1290 / 990	1420 / 940	1195 / 1015	1315 / 995
Tyres/chassis	3.1	Tyres: polyurethane, tophane, vulkollan, front/rear		Vulkollan /Vulkollan	Vulkollan /Vulkollan	Vulkollan /Vulkollan	Vulkollan /Vulkollan	Vulkollan /Vulkollan
	3.2	Tyre size, front	ø (mm x mm)	254 x 125	254 x 125	254 x 125	254 x 125	254 x 125
	3.3	Tyre size, rear	ø (mm x mm)	200 x 100	200 x 100	200 x 100	200 x 100	200 x 100
	3.5	Wheels, number front/rear (x = driven wheels)		1x/2	1x/2	1x/2	1x/2	1x/2
	3.7	Tread, rear	b ₁₁ (mm)	837	837	837	837	837
	Dimensions	4.1	Tilting mast forwards/backwards tilt	α / β (°)	+ 2 / - 4	+ 2 / - 4	+ 2 / - 4	+ 2 / - 4
4.2		Height of mast, lowered ⁽⁶⁾	h ₁ (mm)	2325	2325	2325	2325	2325
4.4		Lift	h ₃ (mm)	3372	3372	3372	3372	3372
4.5		Height of mast, extended ⁽⁷⁾	h ₄ (mm)	3961	3961	3961	3961	3961
4.7		Over head guard height	h ₆ (mm)	2312	2312	2312	2312	2312
4.9		Height drawbar in driving position min./max. ⁽⁴⁾	h ₁₄ (mm)	1180 / 1485	1180 / 1485	1180 / 1485	1220 / 1525	1220 / 1525
4.15		Height, lowered	h ₁₃ (mm)	35	35	35	35	35
4.19		Overall length	l ₁ (mm)	2742	2892	3042	2742	2892
4.20		Length to face of forks	l ₂ (mm)	1742	1892	2042	1742	1892
4.21		Overall width	b ₁ /b ₂ (mm)	788 / 939	788 / 939	788 / 939	788 / 939	788 / 939
4.22		Fork dimensions DIN ISO 2331 ⁽¹⁾	s/e/l (mm)	35 / 100 / 1000	35 / 100 / 1000	35 / 100 / 1000	35 / 100 / 1000	35 / 100 / 1000
4.23		Fork carriage DIN 15173, Class/form A,B	II A	2 / A	2 / A	2 / A	2 / A	2 / A
4.24		Fork carriage width	b ₃ (mm)	700	700	700	700	700
4.25		Distance between fork-arms	b ₅ (mm)	240 / 672	240 / 672	240 / 672	240 / 672	240 / 672
4.31		Ground clearance under mast, with load	m ₁ (mm)	59	59	59	59	59
4.32		Ground clearance, centre of wheelbase	m ₂ (mm)	76	76	76	76	76
4.33		Load dimension b ₁₂ × l ₆ crossways	b ₁₂ × l ₆ (mm)	800 x 1200	800 x 1200	800 x 1200	800 x 1200	800 x 1200
4.34.1	Aisle width for pallets 1000mm x 1200mm crossways	A _{st} (mm)	3111	3258	3406	3111	3258	
4.34.2	Aisle width for pallets 800mm x 1200mm lengthwise	A _{st} (mm)	3227	3374	3522	3227	3374	
4.35	Turning radius	W _a (mm)	1560	1707	1855	1560	1707	
Performance data	5.1	Travel speed, laden/unladen	km/h	4.8 / 5	4.8 / 5	4.8 / 5	5.5 / 6	5.5 / 6
	5.2	Lift speed, laden/unladen	m/s	0.26 / 0.28	0.20 / 0.28	0.18 / 0.28	0.26 / 0.28	0.20 / 0.28
	5.3	Lowering speed, laden/unladen	m/s	0.34 / 0.20	0.34 / 0.20	0.34 / 0.20	0.34 / 0.20	0.34 / 0.20
	5.8	Max. gradeability, laden/unladen	%	11 / 11	10 / 10	9 / 9	11 / 11	10 / 10
	5.10	Service brake		Electr. / Electromagnetic			Electr. / Electromagnetic	
Electric engine	6.1	Drive motor, S2 60 minute rating	kW	4	4	4	4	4
	6.2	Lifting motor, S3 15% rating ⁽²⁾	kW	3	3	3	3	3
	6.3	Battery according to DIN 43531/35/36 A,B,C, no		no	no	no	no	no
	6.4	Battery voltage/nominal capacity K ₅	V/Ah	24 / 300 ⁽⁵⁾	24 / 400	24 / 400	24 / 300 ⁽⁵⁾	24 / 400
	6.5	Battery weight ⁽³⁾	kg	233	303	303	233	303
	6.6	Energy consumption according to VDI cycle	kWh/h at number of cycles	1.46	1.88	2.29	2.61	3.25
8.1	Type of drive unit		AC-Controller	AC-Controller	AC-Controller	AC-Controller	AC-Controller	
10.7	Sound pressure level at the driver's seat	dB (A)	< 70	< 70	< 70	< 70	< 70	

⁽¹⁾ Option 35/100/1200

⁽²⁾ Value referred to S3 10%

⁽³⁾ These values may vary of +/- 5%

⁽⁴⁾ Reverse tiller on Stand-on version;
Long tiller on all versions

⁽⁵⁾ Available battery 400Ah.
With battery 400Ah service weight +70kg

⁽⁶⁾ With free lift of 100mm (2 stage LFL only)

⁽⁷⁾ With load backrest for carriage h₄ + 461mm

⁽⁸⁾ Yale Robotics version

All values are nominal values and they are subject to tolerances. For further information, please contact the manufacturer.

Yale products might be subject to change without notice.

Lift trucks illustrated may feature optional equipment.

Values may vary with alternative configurations.

MC series

Models: MC10, MC12, MC15



Tiller head and controls

The tiller head features an ergonomic shaped handle with angled grips and integral hand guard. Large, low-effort, butterfly buttons control direction of travel, speed and the electromagnetic brake - all without the operator's hand moving from the handle.

Left hand buttons operate slow speeds for fine positioning, right hand ones for proportional lifting and lowering. The horn is on top of the tiller head, actuated by the thumb or fore finger.

When activated, the travel direction inverter button (emergency stop), automatically reverses travel direction, stopping the truck.

The creep speed control allows all functions to be operated with the tiller in the vertical position at reduced speed for manoeuvring in tight confines.

Instrumentation

The pallet truck's dash board features a multi-function indicator displaying information on the status of the truck and alarm conditions should they occur. Operational information includes that provided by the battery discharge indicator and odometer. The red mushroom shaped button can be activated to stop the truck immediately in case of an emergency.

Operator platform (optional use)

The large operator platform allows the operator to determine the most comfortable driving position during long travel distances, providing the operator with maximum comfort. The cushioned platform incorporates an operator presence switch, preventing the truck from operating without a driver present. The dash board has compartments for stationery and other small items with an optional A4 document holder.

Chassis and forks

The steel welded chassis is surface treated and painted with two-component epoxy paint. The three chassis lengths available and the 939mm maximum width

of the truck make it ideal for handling loads in tight spaces for example inside containers or in stocking corridors.

The FEM 2A forks are manufactured from forged steel.

Masts

A range of masts is available to match all operating needs. The none dampening masts are available in two stage LFL and three stage FFL configuration as standard.

Battery

A range of power options is available through a choice of vertically extracted batteries:-
24V - 300 Ah
24V - 400 Ah

Electric motors

The 4kW AC motor provides instant response to forward and reverse traction inputs, providing considerable torque. The maintenance free motor (inspection intervals required every 1,000 operating hours) provides low cost long operational life. The 3 kW DC lift motor provides power to match the truck's operational requirements.

Traction - steering unit

The cast-iron gear train has helical gears immersed in an oil bath. The motor is mounted vertically for efficient ventilation and to eliminate flexing stresses to the power cables to ensure maximum uptime. The steering is actuated by gear-gear, a maintenance and regulation-free system.

Hydraulic unit

The silent, powerful hydraulic pump, activated by the electric motor, is of double gear type. The transparent tank makes the checking of the hydraulic oil level easy. All hydraulics functions are actuated by solenoid valves activated directly by the tiller push buttons. Lift and lowering are by proportional control.

Electronic controls

The Combi MOSFET controller manages both the AC traction engine and the DC

lift motor eliminating the need for contactors. High energy efficiency and motor performance increases shift operation time and reduces battery charging. The combined characteristics of the traction motor and the operator control panel enhance the efficiency of the release and inversion braking, without reduction of autonomy. This leaves the electromagnetic brake for parking and emergencies. Electronic performance parameters are easily customised by a service technician. The truck performance output can easily be matched to ensure the maximum application requirements.

Options

Options available include:-

- Selection of drive wheels
- Selection of fork lengths
- Key Pad
- A4 document holder
- Cold store - 30°C
- Load backrest
- Mast selection
- Side shift

HYSTER-YALE UK LIMITED

trading as **Yale Europe Materials Handling**
Centennial House, Frimley Business Park,
Frimley, Surrey GU16 7SG, United Kingdom.



Tel: +44 (0) 1276 538500

Fax: +44 (0) 1276 538559

www.yale-forklifts.eu

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

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