

MPXD series

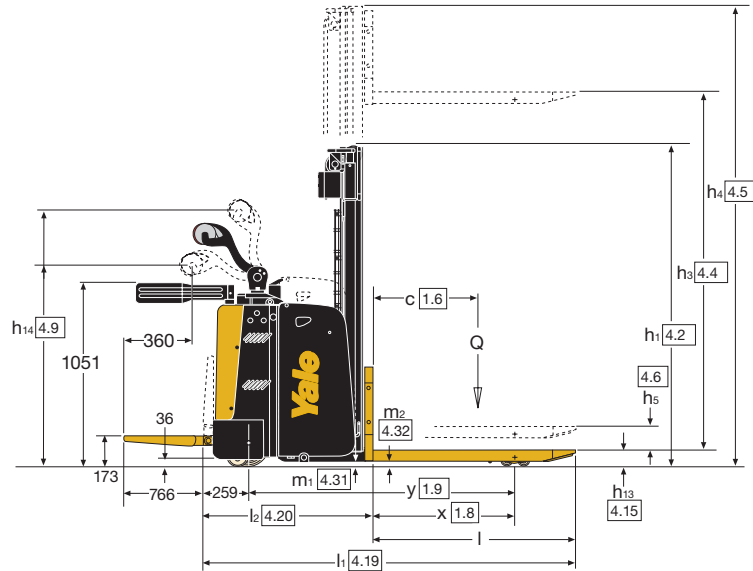
2,000kg

Pedestrian double stackers with operator platform



- Side and rear protection models with fixed operator platform
- COMBI-MOSFET electronic control technology
- Yale AC Technology[™]
- Brushless power steering motor
- Ride-on or pedestrian operation

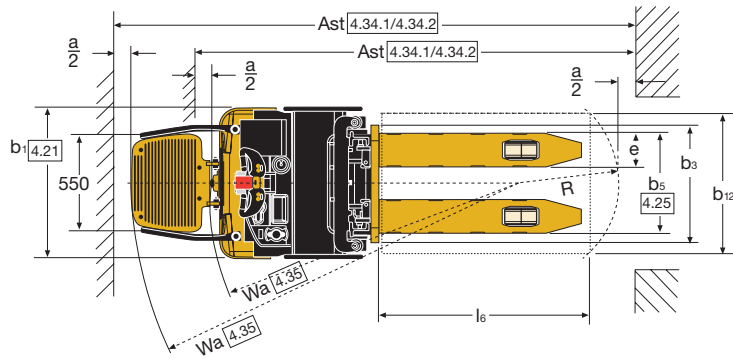
Truck Dimensions - MP20XD



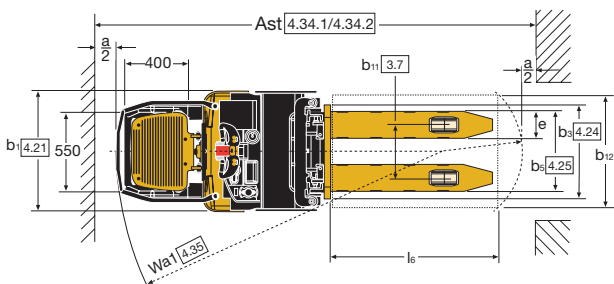
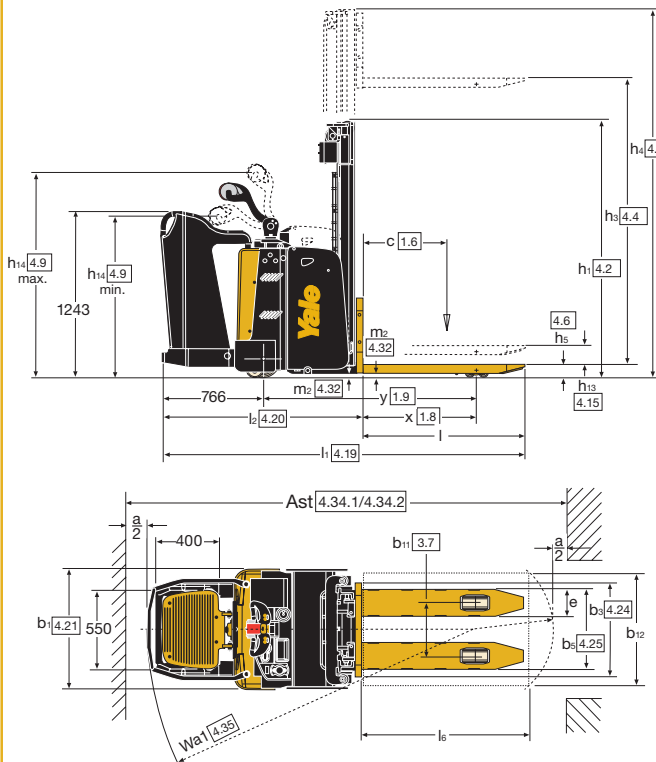
$$Ast = Wa + R + a$$

$$Ast = Wa + (l_6 - x)^2 + \sqrt{b_{12}/2}^2 + a$$

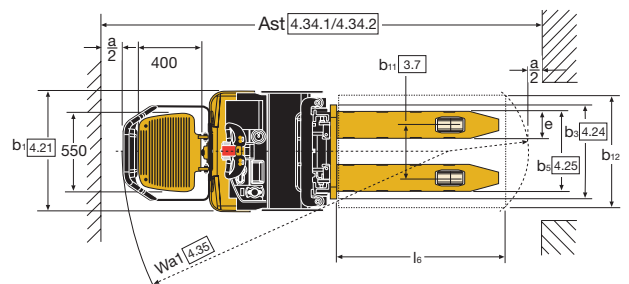
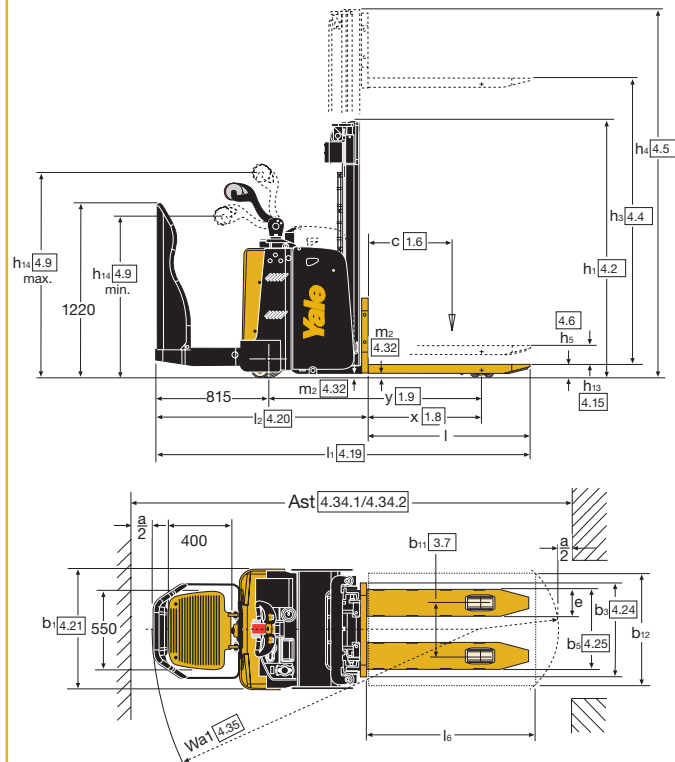
a = 200mm



Truck Dimensions - MP20XD (Biga)



Truck Dimensions - MP20XD (Bob)



VDI 2198 – General Specifications

Distinguishing mark	1.1	Manufacturer (abbreviation)		Yale	Yale	Yale
	1.2	Manufacturer's type designation		MP20XD	MP20XD platform with side protection (Biga)	MP20XD platform with side protection (Bob)
	1.3	Drive: electric (battery or mains), diesel, petrol, fuel gas		Electric (battery)	Electric (battery)	Electric (battery)
	1.4	Operator type: hand, pedestrian, stand-on, seated, order-picker		Pedestrian / Stand-on	Stand-on	Stand-on
	1.5	Rated capacity/Rated load	Q (t)	1.0 + 1.0	1.0 + 1.0	1.0 + 1.0
	1.6	Load centre distance	c (mm)	600	600	600
	1.8	Load distance, centre of drive axle to fork	x (mm)	996	996	996
	1.9	Wheelbase	y (mm)	1706	1706	1706
	Weights	2.1	Service weight ⁽¹⁾	kg	1081	1138
2.2		Axle loading, laden front/rear	kg	1954 / 1127 ⁽³⁾	1938 / 1200	1938 / 1188
2.3		Axle loading, unladen front/rear	kg	309 / 772 ⁽³⁾	294 / 844	294 / 832
Tyres/chassis	3.1	Tyres: polyurethane, tophane, vulkollan, front/rear		Vulkollan /Vulkollan	Vulkollan /Vulkollan	Vulkollan /Vulkollan
	3.2	Tyre size, front	ø (mm x mm)	85 x 74 ⁽³⁾	85 x 74	85 x 74
	3.3	Tyre size, rear	ø (mm x mm)	254 x 90 ⁽³⁾	254 x 90	254 x 90
	3.4	Additional wheels (dimensions)	ø (mm x mm)	125 x 50	125 x 50	125 x 50
	3.5	Wheels, number front/rear (x = driven wheels)		4 / 1x + 1 ⁽³⁾	4 / 1x + 1	4 / 1x + 1
	3.6	Tread, front	b ₁₀ (mm)	377 ⁽³⁾	377	377
	3.7	Tread, rear	b ₁₁ (mm)	500 ⁽³⁾	500	500
Dimensions	4.2	Height, mast lowered	h ₁ (mm)	1560	1560	1560
	4.3	Free lift	h ₂ (mm)	100	100	100
	4.4	Lift	h ₃ (mm)	1650	1650	1650
	4.5	Height, mast extended	h ₄ (mm)	2325	2325	2325
	4.6	Initial lift	h ₅ (mm)	130	130	130
	4.9	Height drawbar in driving position min./max.	h ₁₄ (mm)	1220 / 1460	1220 / 1460	1220 / 1460
	4.10	Height of wheel arms	h ₈ (mm)	85	85	85
	4.15	Height, lowered	h ₁₃ (mm)	90	90	90
	4.19	Overall length (pedestrian)	l ₁ (mm)	2159	-	-
	4.19	Overall length (stand-on)	l ₁ (mm)	2605	2666	2715
	4.20	Length to face of forks (pedestrian)	l ₂ (mm)	969	-	-
	4.20	Length to face of forks (stand-on)	l ₂ (mm)	1415	1476	1525
	4.21	Overall width	b ₁ / b ₂ (mm)	780	780	780
	4.22	Fork dimensions DIN ISO 2331	s/e/l (mm)	55 / 195 / 1190	55 / 195 / 1190	55 / 195 / 1190
	4.24	Fork-carriage width	b ₃ (mm)	675	675	675
	4.25	Distance between fork-arms	b ₅ (mm)	572	572	572
	4.31	Ground clearance, laden, below mast	m ₁ (mm)	25	25	25
	4.32	Ground clearance, centre of wheelbase	m ₂ (mm)	25	25	25
	4.33	Load dimension b ₁₂ x l ₆ crossways	b ₁₂ x l ₆ (mm)	800 x 1200	800 x 1200	800 x 1200
	4.34.1	Aisle width for pallets 1000mm x 1200mm crossways (pedestrian)	A _{st} (mm)	2775	-	-
4.34.1	Aisle width for pallets 1000mm x 1200mm crossways (stand-on)	A _{st} (mm)	3213	3288	3327	
4.34.2	Aisle width for pallets 800mm x 1200mm lengthwise (pedestrian)	A _{st} (mm)	2624	-	-	
4.34.2	Aisle width for pallets 800mm x 1200mm lengthwise (stand-on)	A _{st} (mm)	3062	3137	3176	
4.35	Turning radius (pedestrian)	W _a (mm)	1974	-	-	
4.35	Turning radius (stand-on)	W _a (mm)	2412	2487	2526	
Performance data	5.1	Travel speed, laden/unladen (pedestrian)	km/h	4 / 4	-	-
	5.1	Travel speed, laden/unladen (stand-on)	km/h	7.5 / 8	7.5 / 8	7.5 / 8
	5.1.1	Travel speed, laden/unladen, backwards (pedestrian)	km/h	4 / 4.5	-	-
	5.1.1	Travel speed, laden/unladen, backwards (stand-on)	km/h	7.5 / 8	7.5 / 8	7.5 / 8
	5.2	Lift speed, laden/unladen	m/s	0.16 / 0.22	0.16 / 0.22	0.16 / 0.22
	5.3	Lowering speed laden/unladen	m/s	0.28 / 0.26	0.28 / 0.26	0.28 / 0.26
	5.7	Gradeability, laden/unladen ⁽²⁾	%	8 / 10	8 / 10	8 / 10
	5.8	Max. gradeability, laden/unladen ⁽²⁾	%	8 / 10	8 / 10	8 / 10
5.10	Service brake		Electromagnetic	Electromagnetic	Electromagnetic	
Electric engine	6.1	Drive motor S2 60 minute rating	kW	4.0	4.0	4.0
	6.2	Lift motor, S3 15% rating	kW	2.0	2.0	2.0
	6.3	Battery according to DIN 43531/35/36 A,B,C, no		no	no	no
	6.4	Battery voltage/nominal capacity K5	(V)/(Ah)	24 / 300	24 / 300	24 / 300
	6.5	Battery weight ⁽¹⁾	kg	233	233	233
8.1	Type of drive unit		AC-Controller	AC-Controller	AC-Controller	
10.7	Sound pressure level at the driver's seat	dB (A)	< 70	< 70	< 70	

⁽¹⁾ These values may vary of +/- 5%

⁽²⁾ If truck climbs ramps frequently (within 1h), consult your salesman

⁽³⁾ Stand-on version. For Pedestrian version, front/rear are inverted.

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.

MPXD series

Models: MP20XD



Mast details - 2 stage LFL

h ₃ (mm)	h ₂ (mm)	h ₁ ⁽¹⁾ (mm)	h ₄ (mm)	Weight ⁽⁴⁾ (kg)
1650	100	1560	2325 ⁽²⁾	326
2100	100	1560	2695 ⁽³⁾	358

⁽¹⁾ With free lift of 100 mm.

⁽²⁾ With load backrest for carriage h₄ + 415mm.

⁽³⁾ With load backrest for carriage h₄ + 495mm.

⁽⁴⁾ All weights are: mast structures (weldment, cylinders, chain, pulley) + oil. EXCLUDED: forks, accessories.

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Tiller head and controls

The tiller head has an ergonomic shaped handle with integral hand guard, spring assisted to return automatically to the vertical position.

Large, low effort butterfly buttons control travel direction, speed and electromagnetic brake. Dual lift and lower buttons for left or right hand and horn. The travel direction inverter button, when activated, automatically reverses the direction of travel stopping the truck. Creep speed control allows the truck to be operated with the tiller arm vertical, at reduced speed for manoeuvring in tight spaces. 4 pre-set settings provide different performance levels for forward and reverse travel speeds, reverse current braking, release braking, lift speed and acceleration, proportional control for lift is selectable for driver preference.

Instrumentation

The dashboard features a multi-function display showing truck status and any warnings, including a battery discharge indicator, hourmeter and performance levels.

Operator platform

Foldable side arms are high relative to the level of the large platform, provide maximum comfort and stability when manoeuvring.

The cushioned platform incorporates an operator presence switch, preventing the truck operating without the driver. Optional rear and side access fixed protection types are available. The dashboard has compartments for small items and optional A4 document holder.

Electric Fly-by-Wire Steering System

Minimum effort is required to manoeuvre the truck, turning rotation ratio of the tiller arm to the drive wheel is 75° : 90° – so the operator can work with less effort and arm movement, reducing fatigue and increasing productivity.

Chassis and forks

780mm width allows the handling of loads in tight spaces. Low profile forks assist picking up low entry loads, with a 130mm lift. The forks have two solid longitudinal members and a closing reinforcing sheet, ends are tapered and fitted with skid plates, enhancing the handling of bottom boarded pallets.

Mast

A duplex high visibility mast, mounted on the load arms, with protective wire mesh guard provides 1650mm (h₃) lift. Rollers are sealed to maximise the service life.

Initial lift forks

Initial lift increases floor clearance for travel over uneven surfaces, loading platforms, dockplates and ramps.

Adjustable pull rods provide smooth and even lifting and lowering of the load arms. With the pallet forks raised above 1.5m, traction is automatically cut. The raised mast and initial lift enables the transport and stacking of two loads of 1,000kgs each. A lateral battery change system is fitted as standard.

Battery

Standard batteries are 24 V / 300 Ah.

Rollers and wheels

Rollers and wheels are Vulkollan. Heavy duty tandem load wheels are fitted as standard. A single wheel, with smaller carrying capacity, and tandem or individual twin wheels are optional. The castor wheel has limited suspension to guarantee stability as well as traction.

Electric motors

The maintenance free AC motor has 1000 operating hours inspection intervals, providing low cost long operative life. The compound DC lift motor provides power for the truck's operative requirements.

Traction – steering unit

The cast-iron helicoidal gear train is immersed in an oil bath. The motor is mounted vertically for efficient ventilation and to eliminate flexing stresses to the power cables. Geared steering provides a maintenance free system based on higher specification models.

Hydraulic unit

The silent, powerful hydraulic pump is a double gear type with a transparent tank for checking hydraulic oil level. Lowering is controlled by a solenoid valve activated directly by the tiller pushbuttons.

Electronic controls

The Combi MOSFET controller manages the AC traction and 1DC lifting motor, reducing the need for electrical contactors. High energy efficiency and performance allows considerable hourly usage in operation, reducing battery charging. The combination of the traction motor and the control panel enhance efficiency of release and inversion braking, without reduction of autonomy, leaving the electromagnetic brake for parking and emergencies only. Electronic parameters are easily customised by a service technician.

Options

Options are available include:

- Cold store -30°C
- Forks of varying length and width
- Fixed side protection with rear access (Biga)
- Fixed rear protection with side access (Bob)
- Twin-bed changeover for battery change
- Load backrest
- Lateral battery extraction

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

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