

Model:
MP20XV

Tiller head and controls

The tiller head is designed for operator comfort and features an ergonomic shaped handle with angled grips and integral hand guard. Large dimensioned, low effort, butterfly buttons control the direction of travel and speed as well as the electromagnetic brake, all accessible without having to lift the hand from the handle. Dual lift and lower buttons located on the tiller head can be readily accessed for left or right hand use. The 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. The horn is located on top of the tiller head actuated by either the thumb or fore finger. The creep speed control allows the truck to be operated with the tiller arm in the vertical position at reduced speed for manoeuvring in tight confines. Four pre-set performance settings provide different performance levels for forward and reverse travel speeds, reverse current braking, release braking, lift speed and acceleration are, all easily selectable to suit the operators personal preference. The tiller arm is spring assisted and returns automatically to the vertical position when released.

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 the battery discharge indicator, odometer and performance level. The red mushroom shaped button can be pressed to stop the pallet truck immediately in case of emergency.

Operator platform

The large operator platform allows the operator to determine the most comfortable driving position; the foldable side arms (option) are high relative to the level of the platform, providing the operator with maximum comfort and stability when manoeuvring. The cushioned platform incorporates an operator presence switch (or "man on board" sensor), preventing the truck from operating with

no driver present. Optional side access fixed protection types are available, suitable for shuttle activity over medium distances. The dash board has compartments for stationery and other small items with (option) A4 document holder.

Direct steering

The direct steering system design reduces the steering effort, making the truck easy to steer in all working situations. The steering reacts immediately to ensure maximum performance.

Chassis and forks

The steel welded chassis is surface treated and painted with two-component epoxy paint. Short and long chassis (high performance version) and the 716mm width allows the handling of loads in tight spaces, for example inside containers or on lorry trailers.

The forks have a low profile of 55mm to assist picking up low entry loads with a 130mm lift. The robust forks are made with two solid longitudinal members covered with a closing and reinforcing sheet. The ends are tapered and fitted with skid plates which enhance the handling of bottom boarded pallets.

Battery

A range of power options is available through the choice of batteries:-
24V - 210 Ah (standard MP20X-V,)
24V - 315 Ah (MP20X-V high speed).
Vertical or lateral (optional) extraction.

Wheels and Rollers

Wheels and rollers are Vulkollan. Tandem load wheels are fitted as standard. A single load roller option is available, with high or reduced carrying capacity, tandem or individual "twins" wheels are also optional. The castor wheels are sprung with a torsion bar to facilitate easy manoeuvring and stability or sprung independently to assist operation on uneven ground and loading ramps.

Electric motors

The AC motor is 2kW, with instant response to forward and reverse traction inputs, providing considerable torque. The maintenance free motor (inspection intervals required every 1000 operating hours) provides low cost long

operational life. The 1kW DC lift motor is compound wound, a 2kW high performance version provides power in excess of the truck's operational requirements.

Traction – steering unit

The cast-iron gear train has helicoidal 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 reduced downtime. The steering is direct, maintenance and regulation-free.

Hydraulic unit

The silent, powerful hydraulic pump, activated by the electric motor, is a double gear type. Lowering is controlled by a solenoid valve activated directly by the tiller push buttons. The transparent hydraulic oil tank makes checking of the hydraulic oil level easy.

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 efficiency of 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 operator choice of four pre-set performance levels allows the truck output to be matched to the application.

Options

- Selection of drive and load wheels
- Selection of fork lengths and widths
- Key pad
- A4 document holder
- Cold store to -30°C
- Fixed protection Bob (side access)
- Load backrest
- Lateral battery extraction
- Battery change station
- On board battery charger



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

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Truck shown with optional equipment

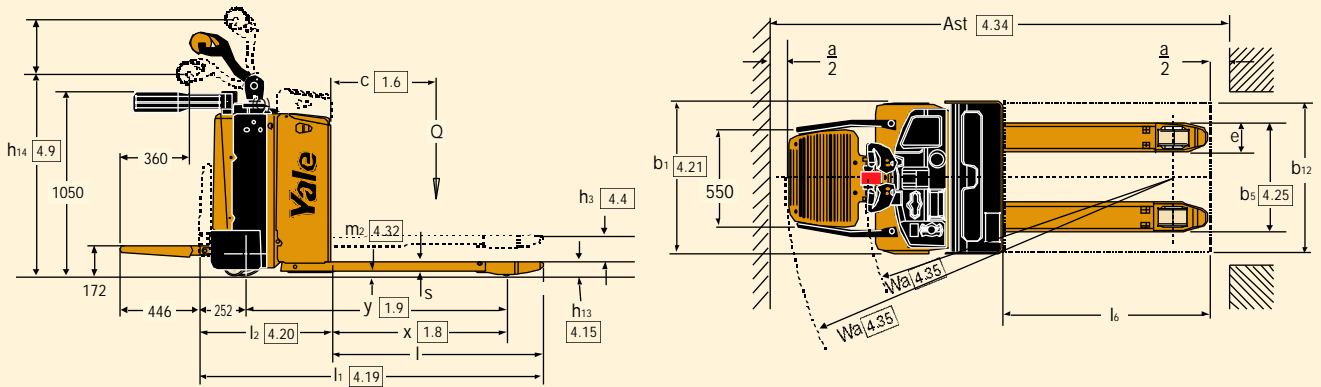
Powered Pallet truck with folding platform and side arms

Pedestrian or rider operation, 2,000 kg



- Electronically controlled pallet truck
- Dual Combi MOSFET
- Yale AC Technology
- AC drive motor
- 24V 210 - 315 Ah Battery
- Rider or pedestrian operation

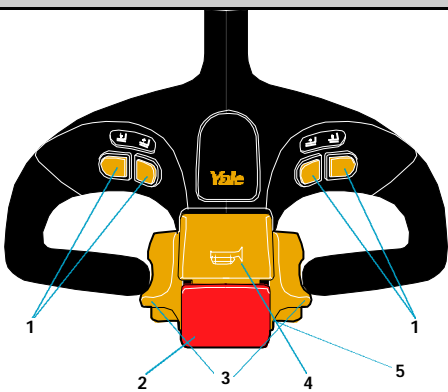
Truck Dimensions



Fork and chassis dimensions

Battery compartment size for;	b5 = 520mm	b5 = 560mm	b5 = 650mm	l (mm)	x (mm)
210Ah battery	✓	✓	✓	988	809
	✓	✓	✓	1191	1012
	✓	✓	✓	1608	1430
315Ah battery	✓	✓	✓	988	809
	✓	✓	✓	1191	1012
	✓	✓	✓	1608	1430

Tiller Head



- 1 on / off for initial lift
- 2 travel direction inverter button
- 3 butterfly control buttons for direction and speed
- 4 horn
- 5 creep speed (opposite side)

VDI 2198 - General Specifications						
Characteristics	1.1	Manufacturer		Yale	Yale	Yale
	1.2	Model designation ⁽¹⁾		MP20XV	MP20XV	MP20XV
	1.3	Power: battery, diesel, LPG, electric mains		Battery	Battery	Battery
	1.4	Operation; manual, pedestrian, stand, seat		Pedestrian	Stand on	Rider
	1.5	Load capacity	Q (t)	2.0	2.0	2.0
	1.6	Load centre	c (mm)	600	600	600
	1.8	Load distance ⁽¹⁾	x (mm)	1012	1012	1012
	1.9	Wheelbase	y (mm)	1419	1491	1491
	Weights	2.1	Unladen weight (including battery) ⁽¹⁾	kg	750	875
2.2		Axle loading laden, front/rear ⁽¹⁾	kg	1050 / 1700	1150 / 1725	1200 / 1725
2.3		Axle loading unladen, front/rear	kg	550 / 200	650 / 225	700 / 225
Wheels and Tyres	3.1	Tyres: rubber, polyurethane, Vulkollan, front/rear		Vulkollan / Vulkollan	Vulkollan / Vulkollan	Vulkollan / Vulkollan
	3.2	Tyre size, front		230 x 75	230 x 75	230 x 75
	3.3	Tyre size, rear		85 x 94	85 x 94	85 x 94
	3.4	Additional Wheels (dimensions)		125 x 50	125 x 50	125 x 50
	3.5	Wheels number front/rear (x = driven)		1x + 1/4	1x + 1/4	1x + 1/4
	3.6	Track width, front	b 10 (mm)	480	480	480
	3.7	Track width, rear ⁽¹⁾	b 11 (mm)	390	390	390
Dimensions	4.2	Lift height	h3 (mm)	130	130	130
	4.9	Height of tiller arm in working position min. / max.	h14 (mm)	1220 / 1460	1220 / 1460	1220 / 1460
	4.15	Lowered height	h13 (mm)	85	85	85
	4.19	Overall length (pedestrian)	l1 (mm)	1850	1922	-
	4.19	Overall length (stand-on)	l1 (mm)	2296	2368	2478
	4.20	Length to face of forks (pedestrian)	l2 (mm)	658	730	-
	4.20	Length to face of forks (stand-on)	l2 (mm)	1104	1176	1286
	4.21	Overall width	b1/b2 (mm)	716	716	716
	4.22	Fork dimensions	s/e/l (mm)	55 / 170 / 1191	55 / 170 / 1191	55 / 170 / 1191
	4.25	Outside fork width min. / max ⁽¹⁾	b5 (mm)	560	560	560
	4.32	Ground clearance centre of wheelbase	m2 (mm)	30	30	30
	4.33	Aisle width with pallet 1000x1200 crossways VDI 2198 (pedestrian)	Ast (mm)	1858	1930	-
	4.33	Aisle width with pallet 1000x1200 crossways VDI 2198 (stand-on)	Ast (mm)	2308	2308	2494
	4.34	Aisle width with pallet 800x1200 lengthwise VDI 2198 (pedestrian)	Ast (mm)	2058	2130	-
	4.34	Aisle width with pallet 800x1200 lengthwise VDI 2198 (stand-on)	Ast (mm)	2508	2508	2694
4.35	Turning radius (pedestrian)	Ast (mm)	1670	1742	-	
4.35	Turning radius (stand-on)	Wa (mm)	2120	2192	2306	
Performance	5.1	Travel speed laden/unladen (pedestrian)	km/h	6.0 / 6.0	6.0 / 6.0	-
	5.1	Travel speed laden/unladen (stand-on)	km/h	6.0 / 6.0	7.4 / 7.5	7.4 / 7.5
	5.2	Lift speed laden/unladen	m/s	0.03 / 0.04	0.03 / 0.04	0.03 / 0.04
	5.3	Lowering speed laden/unladen	m/s	0.05 / 0.04	0.05 / 0.04	0.05 / 0.04
	5.7	Max. gradeability laden/unladen ⁽²⁾	%	10 / 20	10 / 20	10 / 14
	5.8	Max. gradeability laden/unladen ⁽²⁾	%	10 / 20	10 / 20	10 / 14
5.10	Service Brake		el.magnetic	el.magnetic	el.magnetic	
Power Unit	6.1	Drive motor, S2 60 minute rating	kW	2	2	2
	6.2	Lift motor, S3 16% rating	kW	1	2	2
	6.3	Battery according to DIN 43531/35/36 A,B,C, no		no	no	no
	6.4	Battery voltage/capacity at 5 hours rate	V/Ah	24 / 210-250	24 / 315-375	24 / 315-375
	6.5	Battery weight (+/- 5%)	kg	215 - 240	297 - 317	297 - 317
	6.6	Consumption according to VDI cycle	kWh/h	/	/	/
Misc.	8.1	Drive control		Mosfet ~ AC	Mosfet ~ AC	Mosfet ~ AC
	8.4	Average noise level at operator's ear	dB (A)	< 70	< 70	< 70
		Vibrations	m/sec ²	< 3,20	< 3,20	< 3,20

⁽¹⁾ Value refer to truck with forks b5=560, l=1191mm and minimal battery.

⁽²⁾ Values determined by wheel friction, if climbing ramps frequently (within 1 hour), consult your salesman.