VH series

4,000kg / 5,000kg / 5,500kg

Yale®

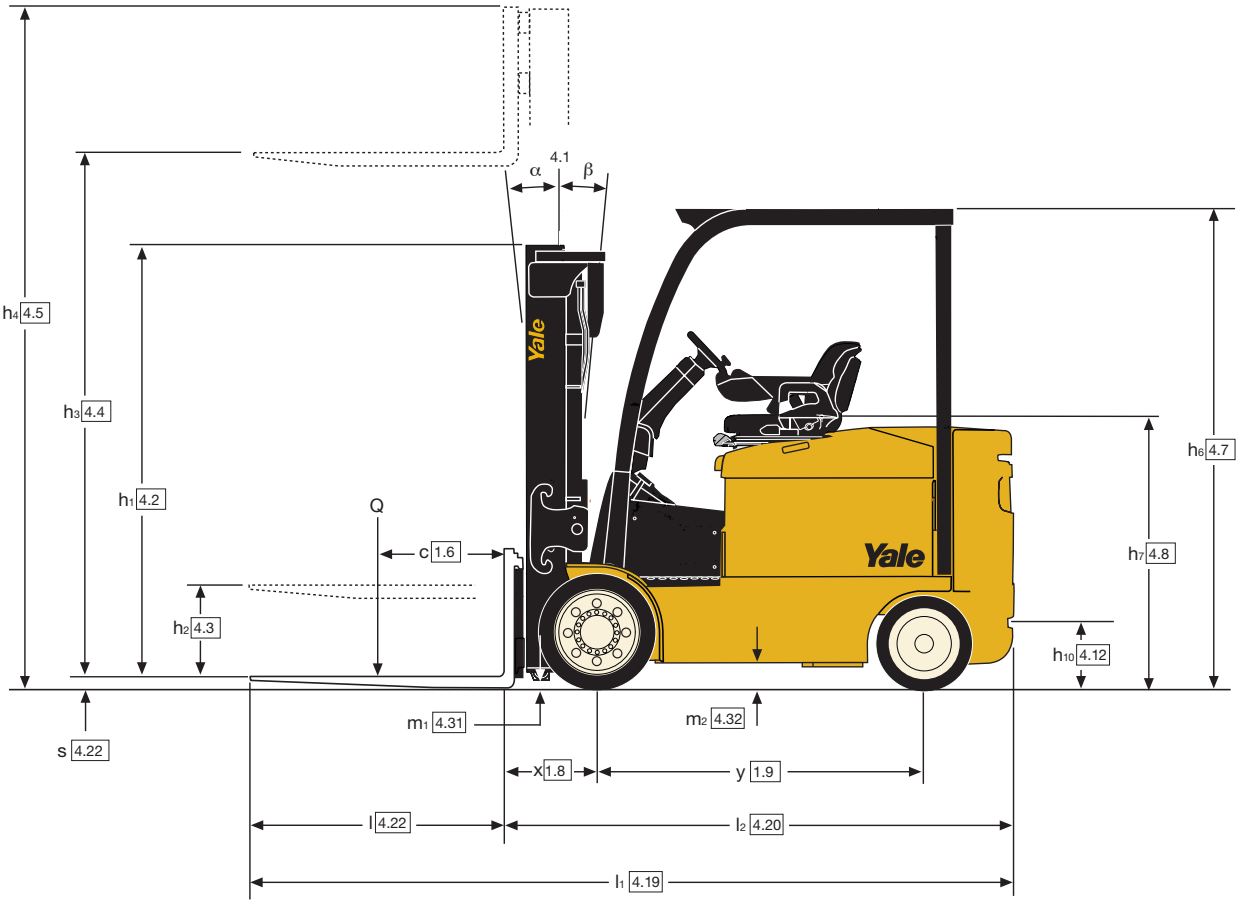
People. Products. Productivity.™

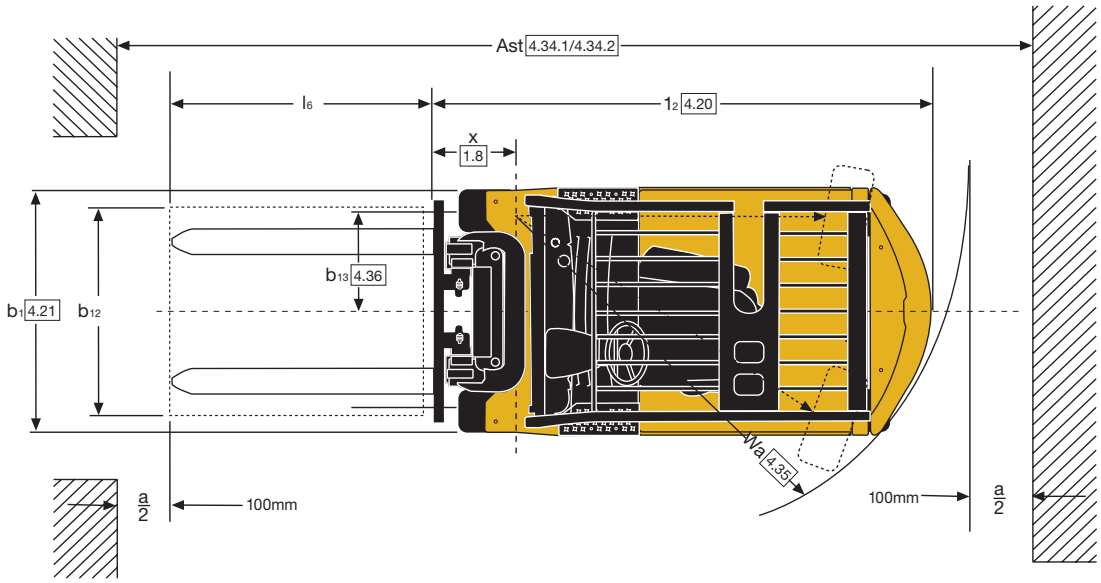
Electric forklift trucks

- YaleStop automatic park brake eliminates uncontrolled roll-back on ramps
- Auto deceleration
- CAN bus technology
- High-performance AC motor technology
- Continuous Stability Enhancement
- eLo and HiP performance settings

Truck Dimensions

If $b_{12/2} \leq b_{13}$
Ast = $W_a + x + l_6 + a$
If $b_{12/2} > b_{13}$
Ast = $W_a + R + a = W_a + \sqrt{((l_6 + x)^2 + (b_{12/2} - b_{13})^2)} + a$





ERC 40VH mast details and capacity ratings (kg) - Cushion tyres

Model	ERC 40VH
Tyre size, front	22 x 9 x 16
Fork dimensions	50 x 120 x 1000mm
Overall width, front	1130mm

Mast	h_1 (mm)	h_{2+s} (mm)	h_{3+s} (mm)	h_4 (mm)	Tilt		Forks			Integral sideshift		
							500	600	700	500	600	700
					F	B	Load centre (kg)			Load centre (kg)		
2 Stage LFL	2134	150	3050	3783(1)	5	5	4000	3600	3360	3870	3520	3220
	2434	150	3650	4383(1)	5	5	4000	3600	3340	3860	3500	3210
	2784	150	4350	5083(1)	5	5	4000	3600	3330	3860	3500	3210
2 Stage FFL	2134	1352(3)	3075	3857(2)	5	5	4000	3600	3380	3910	3560	3270
	2434	1652(3)	3675	4457(2)	5	5	4000	3600	3360	3900	3550	3260
3 Stage FFL	2134	1352(3))	4415	5197(2)	5	5	4000	3600	3360	3850	3510	3230
	2334	1552(3)	4950	5732(2)	5	5	3910	3520	3270	3750	3420	3140
	2534	1752(3)	5550	6332(2)	5	5	3790	3410	3170	3630	3310	3040

Wide tread required on 3 Stage masts

(1) Add 501mm with load backrest extension.

(2) Add 452mm with load backrest extension.

(3) Deduct 452mm with load backrest extension.

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

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Lift trucks illustrated may feature optional equipment.

Values may vary with alternative configurations.

ERC 50VHS mast details and capacity ratings (kg) - Cushion tyres

Model	ERC 50VHS
Tyre size, front	22 x 12 x 16
Fork dimensions	50 x 150 x 1200mm
Overall width, front	1130mm

Mast	h_1 (mm)	h_{2+s} (mm)	h_{3+s} (mm)	h_4 (mm)	Tilt		Forks			Integral sideshift		
							500	600	700	500	600	700
					F	B	Load centre (kg)			Load centre (kg)		
2 Stage LFL	2438	150	3390	4257(4)	5	5	5000	4500	4180	4760	4330	3970
	2738	150	3990	4857(4)	5	5	5000	4500	4170	4650	4320	3960
	3238	150	4790	5657(4)	5	5	5000	4500	4140	4700	4280	3920
2 Stage FFL	2138	1222(6)	2815	3731(5)	5	5	5000	4500	4210	4840	4410	4050
	2438	1522(6)	3415	4331(5)	5	5	5000	4500	4200	4820	4400	4040
3 Stage FFL	2138	1217(6)	4137	5058(5)	5	5	5000	4500	4180	4730	4310	3970
	2338	1417(8)	4690	5611(5)	5	5	5000	4500	4170	4710	4300	3950
	2438	1517(8)	4990	5911(5)	5	5	4940	4440	4110	4650	4240	3900
	2538	1617(8)	5290	6211(5)	5	5	4880	4390	4060	4590	4180	3850
	2738	1817(8)	5740	6661(5)	5	5	4730	4300	3960	4480	4090	3760

Wide tread required on 3 Stage masts

(1) Add 374mm with load backrest extension.

(5) Add 325mm with load backrest extension.

(6) Deduct 325mm with load backrest extension.

(7) Add 320mm with load backrest extension.

(8) Deduct 320mm with load backrest extension.

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Lift trucks illustrated may feature optional equipment.

Values may vary with alternative configurations.

ERC 50VH mast details and capacity ratings (kg) - Cushion tyres

Model	ERC 50VH
Tyre size, front	22 x 12 x 16
Fork dimensions	50 x 150 x 1200mm
Overall width, front	1130mm

Mast	h_1 (mm)	h_{2+s} (mm)	h_{3+s} (mm)	h_4 (mm)	Tilt		Forks			Integral sideshift		
							500	600	700	500	600	700
					F	B	Load centre (kg)			Load centre (kg)		
2 Stage LFL	2438	150	3390	4257[4]	5	5	5000	4500	4180	4760	4330	3970
	2738	150	3990	4857[4]	5	5	5000	4500	4170	4650	4320	3960
	3238	150	4790	5657[4]	5	5	5000	4500	4140	4700	4280	3920
2 Stage FFL	2138	1222[6]	2815	3731[5]	5	5	5000	4500	4210	4840	4410	4050
	2438	1522[6]	3415	4331[5]	5	5	5000	4500	4200	4820	4400	4040
3 Stage FFL	2138	1217[6]	4137	5058[5]	5	5	5000	4500	4180	4730	4310	3970
	2338	1417[8]	4690	5611[5]	5	5	5000	4500	4170	4710	4300	3950
	2438	1517[8]	4990	5911[5]	5	5	4930	4440	4110	4650	4240	3900
	2538	1617[8]	5290	6211[5]	5	5	4820	4390	4060	4580	4180	3850
	2738	1817[8]	5740	6661[5]	5	5	4670	4300	3960	4450	4080	3750

Wide tread required on 3 Stage masts

[1] Add 374mm with load backrest extension.

[5] Add 325mm with load backrest extension.

[6] Deduct 325mm with load backrest extension.

[7] Add 320mm with load backrest extension.

[8] Deduct 320mm with load backrest extension.

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ERC 55VH mast details and capacity ratings (kg) - Cushion tyres

Model	ERC 55VH
Tyre size, front	22 x 12 x 16
Fork dimensions	50 x 150 x 1200mm
Overall width, front	1130mm

Mast	h_1 (mm)	h_{2+s} (mm)	h_{3+s} (mm)	h_4 (mm)	Tilt		Forks			Integral sideshift		
							500	600	700	500	600	700
					F	B	Load centre (kg)			Load centre (kg)		
2 Stage LFL	2438	150	3390	4257[4]	5	5	5000	4500	4180	4760	4330	3970
	2738	150	3990	4857[4]	5	5	5000	4500	4170	4650	4320	3960
	3238	150	4790	5657[4]	5	5	5000	4500	4140	4700	4280	3920
2 Stage FFL	2138	1222[6]	2815	3731[5]	5	5	5000	4500	4210	4840	4410	4050
	2438	1522[6]	3415	4331[5]	5	5	5000	4500	4200	4820	4400	4040
	2138	1217[6]	4137	5058[5]	5	5	5000	4500	4180	4730	4310	3970
3 Stage FFL	2338	1417[8]	4690	5611[5]	5	5	5000	4500	4170	4710	4300	3950
	2438	1517[8]	4990	5911[5]	5	5	4930	4440	4110	4650	4240	3900
	2538	1617[8]	5290	6211[5]	5	5	4820	4390	4060	4580	4180	3850
	2738	1817[8]	5740	6661[5]	5	5	4670	4300	3960	4450	4080	3750

Wide tread required on 3 Stage masts

[1] Add 374mm with load backrest extension.

[5] Add 325mm with load backrest extension.

[6] Deduct 325mm with load backrest extension.

[7] Add 320mm with load backrest extension.

[8] Deduct 320mm with load backrest extension.

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Values may vary with alternative configurations.

VDI 2198 – General Specifications

Distinguishing mark	1.1	Manufacturer (abbreviation)		Yale	Yale	Yale	Yale
	1.2	Manufacturer's type designation		**ERC 40VH**	**ERC 50VHS**	**ERC 50VH**	**ERC 55VH**
	1.3	Drive: electric (battery or mains), diesel, petrol, fuel gas		Electric (Battery)	Electric (Battery)	Electric (Battery)	Electric (Battery)
	1.4	Operator type: hand, pedestrian, standing, seated, order-picker		Seated	Seated	Seated	Seated
	1.5	Rated capacity/rated load	Q (t)	4.0	5.0	5.0	5.5
	1.6	Load centre distance	c (mm)	500	500	500	600
	1.8	Load distance, centre of drive axle to fork	x (mm)	447	452	452	462
	1.9	Wheelbase	y (mm)	1574	1574	1739	1739
Weights	2.1	Service weight	kg	7217	8121	8112	8824
	2.2	Axle loading, laden front/rear	kg	9479 / 1738	11125 / 1996	11247 / 1865	12310 / 2014
	2.3	Axle loading, unladen front/rear	kg	3072 / 4145	3101 /5020	3510 / 4133	3451 / 5373
Tyres/chassis	3.1	Tyres: P=pneumatic, V=cushion, SE=Superelastic		V	V	V	V
	3.2	Tyre size, front		22 x 9 x 16	22 x 12 x 16	22 x 12 x 16	22 x 12 x 16
	3.3	Tyre size, rear		18 x 6 x 12.1	18 x 7 x 12.1	18 x 7 x 12.1	18 x 7 x 12.1
	3.5	Wheels, number front/rear (x = driven wheels)		2X / 2	2X / 2	2X / 2	2X / 2
	3.6	Tread, front	b_{10} (mm)	941 / 1041	1015 / 1115	1015 / 1115	1015 / 1115
	3.7	Tread, rear	b_{11} (mm)	1003	972	972	972
Dimensions	4.1	Tilt of mast/fork carriage forward/backward	α / β (°)	5 / 5 - 8 / 5	5 / 5 - 8 / 5	5 / 5 - 8 / 5	5 / 5 - 8 / 5
	4.2	Height of mast, lowered	h_1 (mm)	2134	2138	2138	2138
	4.3	Free lift ▼	h_2 (mm)	100	100	100	100
	4.4	Lift ▼	h_3 (mm)	3000	3340	3340	3340
	4.5	Height, mast extended ✚	h_4 (mm)	3783	4257	4257	4257
	4.7	Height of overhead guard (cabin) ❍	h_6 (mm)	2388	2388	2388	2388
	4.8	Seat height/stand height ✘	h_7 (mm)	1324	1324	1324	1324
	4.12	Coupling height	h_{10} (mm)	324	324	324	324
	4.19	Overall length	l_1 (mm)	3451	3748	3821	3924
	4.20	Length to face of forks	l_2 (mm)	2451	2548	2621	2724
	4.21	Overall width *	b_1/b_2 (mm)	1200 / 1270	1320 / 1420	1320 / 1420	1320 / 1420
	4.22	Fork dimensions ISO2331	s/e/l (mm)	50 x 120 x 1000	50 x 120 x 1200	50 x 150 x 1200	60 x 150 x 1200
	4.23	Fork carriage ISO 2328, class/type A,B		3A	4A	4A	4A
	4.24	Fork carriage width	b_3 (mm)	1219	1219	1219	1219
	4.31	Ground clearance, laden, below mast	m_1 (mm)	90	87	87	87
	4.32	Ground clearance, centre of wheelbase	m_2 (mm)	130	130	130	130
	4.34.1	Aisle width for pallets 1000 x 1200 crossways	A_{st} (mm)	3812	3892	3993	4082
	4.34.2	Aisle width for pallets 800 x 1200 lengthways	A_{st} (mm)	4012	4092	4193	4282
	4.35	Turning radius	W_a (mm)	2165	2240	2341	2420
	4.36	Internal turning radius	b_{13} (mm)	670	670	741	741
Performance data	5.1	Travel speed, laden/unladen	km/h	19.6 / 20.4	17.7 / 18.3	17.7 / 18.3	16.1 / 16.7
	5.2	Lift speed, laden/unladen	m/s	0.37 / 0.60	0.29 / 0.45	0.29 / 0.45	0.27 / 0.45
	5.3	Lowering speed, laden/unladen	m/s	0.53 / 0.48	0.45 / 0.37	0.45 / 0.37	0.45 / 0.37
	5.5	Drawbar pull, laden/unladen **	N	6790 / 6854	6711 / 6791	6671 / 6751	6556 / 6652
	5.6	Max. drawbar pull, laden/unladen ***	N	17532 / 18254	17387 / 18121	17282 / 18012	17036 / 17115
	5.7	Gradeability, laden/unladen ***	%	7.0 / 10.9	5.8 / 9.2	5.9 / 9.4	5.1 / 8.5
	5.8	Max. gradeability, laden/unladen ***	%	18.3 / 30.1	15.1 / 25.2	15.3 / 25.8	13.4 / 23.3
	5.9	Acceleration time, laden/unladen	s	4.5 / 4.2	4.7 / 4.3	4.7 / 4.3	4.8 / 4.4
	5.10	Service brake		Hydraulic / Foot	Hydraulic / Foot	Hydraulic / Foot	Hydraulic / Foot
Electric-engine	6.1	Drive motor rating S2 60 min	kW	21.0	21.0	21.0	21.0
	6.2	Lift motor rating at S3 15%	kW	36.0	36.0	36.0	36.0
	6.3	Battery according to DIN 43531/35/36 A, B, C, no		No	No	No	No
	6.4	Battery voltage/nominal capacity K5	(V(/(Ah)	80 / 675	80 / 675	80 / 750	80 / 750
	6.5	Battery weight	kg	1542 / 2177	1542 / 2177	1814 / 2517	1814 / 2517
	6.6	Energy consumption according to VDI cycle	kWh/h @Nr of Cycles	11.5	12.0	12.0	12.0
	8.1	Type of drive unit		AC Electronic	AC Electronic	AC Electronic	AC Electronic
Addition data	10.1	Operating pressure for attachments	bar	155	155	155	155
	10.2	Oil volume for attachments ❒	l/min	60	60	60	60
	10.7	Sound pressure level at the driver's seat ★	dB(A)	69	69	69	69
	10.8	Towing coupling, type DIN		Pin	Pin	Pin	Pin

★ LPAZ, measured according to the test cycles and based on the weighting values contained in EN12053.
✘ Full Suspension specified. Unladen vehicle, with seat-index point SIP according to ISO 6055.

▼ Bottom of forks.
✚ Without load backrest.
❍ h6 subject to +/- 5mm tolerance.
❒ Maximum flow set through dash display.
* Standard/Wide tread.

** 60 minute rating.
*** 30 minute rating.

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VH series

Models: ERC 40VH, ERC 50VHS, ERC 50VH, ERC 55VH

Yale ERC-VH Series
The VH series electric trucks are available in 4000kg - 5500kg capacities designed for demanding applications that require clean, quiet-running, heavy-duty capability.

These trucks are extremely manoeuvrable and offer plenty of power and high stacking ability, while also offering excellent ergonomics, reliability and maintenance ease.

AC Technology
The Yale 21.0kW AC technology traction motor is suitable for the most arduous applications. Smooth forward and reverse directional changes provide seamless driving action. In the high-performance or 'HiP' setting, AC technology provides increased speed and acceleration and increased speed on gradients, even when fully laden.

Brakes
The fully automatic park brake is applied once the truck stops and is deactivated, once the accelerator pedal is pressed. The standard Auto Deceleration System automatically slows the truck when the operator's foot is removed from the accelerator pedal, extending brake life.

Steering
The 36.0kW AC motor drives a pump which provides oil pressure for all the hydraulic functions and steering, eliminating the need for a separate steering motor and pump. The gas spring assisted steering column is mounted on the truck's cowl providing unrestricted floor space. It is infinitely adjustable in a range of 26° and is contoured for easy on/off access.

Telescopic adjustment of 75mm and memory tilt are available as an option.

The continuous Stability Enhancement System is a passive mechanical system that optimizes steer axle geometry to reduce truck lean by limiting articulation.

Transmission of surface shocks and vibrations to the operator and load when travelling over uneven ground conditions are also reduced. The system is 100% maintenance free.

Performance modes
The Yale VH series of lift trucks feature an 'eLo' energy saving setting, which provides exceptional energy efficient performance for continuous operation over longer periods, increasing the time between battery charges. Should the application conditions be more demanding and require higher top speeds and acceleration to deliver higher productivity, a 'HiP' high performance setting can be activated via the dash display with a service password.

The performance of the VH series can be further tailored via the enhanced 'heads up' display. The requirements of the application or the operator's preferences can be set by selecting one of the 4 performance modes.

Ergonomics
The VH series is designed for optimum operator comfort. The operator is positioned ergonomically for maximum safety, comfort, visibility and ease of operation. Whole body vibration (WBV) transmitted to the operator is reduced by the full suspension seat angled 3° to the right for a more natural operating position and that is easily adjusted for weight and stature and has 80mm of suspension travel. This provides the operator with the most comfortable working environment reducing fatigue and increasing productivity. A swivel seat option provides a superior reverse driving position.

A low intermediate anti-slip step, clear foot-well and generous floor-space with nonslip rubber floor mat provide easy 'on' and 'off' access from both sides of the truck. An automatic park brake contributes to ease of operation and excellent driver comfort.

Seat side contoured manual levers are standard. A 'Forward/Reverse' direction switch is integrated into the hoist lever and an emergency stop button positioned into the manual lever Models: ERC 40VH, 50VHS, 50VH, 55VH

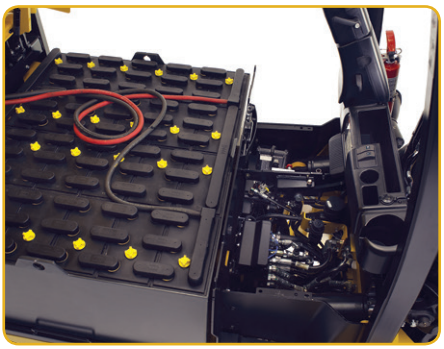
Selecting 'Mode 4' provides maximum speed and acceleration whilst 'Mode 1' is ideal for more precise manoeuvring. Yale trained service technicians can easily adjust the top speed and acceleration.

console for easy application.

The Accutouch mini-lever module (MLM) provides the best in intuitive and relaxed operation of all control functions. A cushioned arm and palm rest and splayed mini levers for fingertip control help reduce RSI and increase productivity. A 'Forward/ Reverse' direction switch with detent, emergency stop button and horn are all positioned on the MLM within easy reach of the operator. Travel direction is displayed on the 'heads up' display.

'Return to set tilt' and '4th function with clamp' button options are integrated into the MLM to alleviate operator fatigue when aligning forks for load drop and retrieval.

The 'heads up display' is located on the overhead guard to the top right hand side of the operator. This frees up the operators field of vision for more productive load handling and allows the



trucks status and critical functions to be easily checked. These include:

- Battery charge condition
- Hours worked
- Direction of travel
- Performance setting
- Motor temperature
- Low brake fluid
- Seat belt reminder
- Time

Load weight indication is an option as are Operator PIN Code Access and Key switch.

The dashboard of the VH series provides plenty of storage space including a clipboard holder and space for pens, mobile phone, mp3/4 player and drinks as well as light switches and an optional 12V socket.

Masts

A full range of Yale Hi-Vis, 2 stage LFL and 2 and 3 stage FFL masts are available. Yale Hi-Vis masts are designed for durability and reliability with widely spaced channels, lift chains and main lift cylinders for maximum visibility.

Low lifetime costs

Lower maintenance costs are delivered through reduced maintenance. This reduction is primarily achieved through the use of Hall Effect sensors, 'O' Ring face seals, an electric park brake, CAN bus and AC technology.

The VSM (Vehicle Systems Manager) monitors and controls key truck components and systems. The advanced thermal management system monitors component temperature and gradually adjusts performance to prevent damage to key components. Auto regenerative braking also reduces service brake usage contributing to an increase in the life of parts. 1000 hours service intervals are standard on most components.

Options

- Mini-levers with travel and hydraulic functions integrated into the armrest
- Hydraulic Clamping Interlock function
- Return to set tilt
- Manual Levers with clamping attachment interlock button on lever
- Steering column with telescopic adjustment and memory tilt
- Integral sideshift
- Load weight indicator
- Impact Monitor
- Hydraulic System Monitor
- Mirrors
- Back up alarm
- Side battery removal
- Swivel seat
- Foot Directional Control pedal
- Full LED light package
- Keyless start & operator password
- Programmable maintenance reminder
- Daily operator checklist
- System monitoring.

VH series

Models: ERC 40VH, ERC 50VHS, ERC 50VH, ERC 55VH

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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

Publication part no. 220990065 Rev.02 Printed in The Netherlands (0918HG) EN.
Safety: This truck conforms to the current EU requirements. Specification is subject to change without notice.