

# DC/EC series

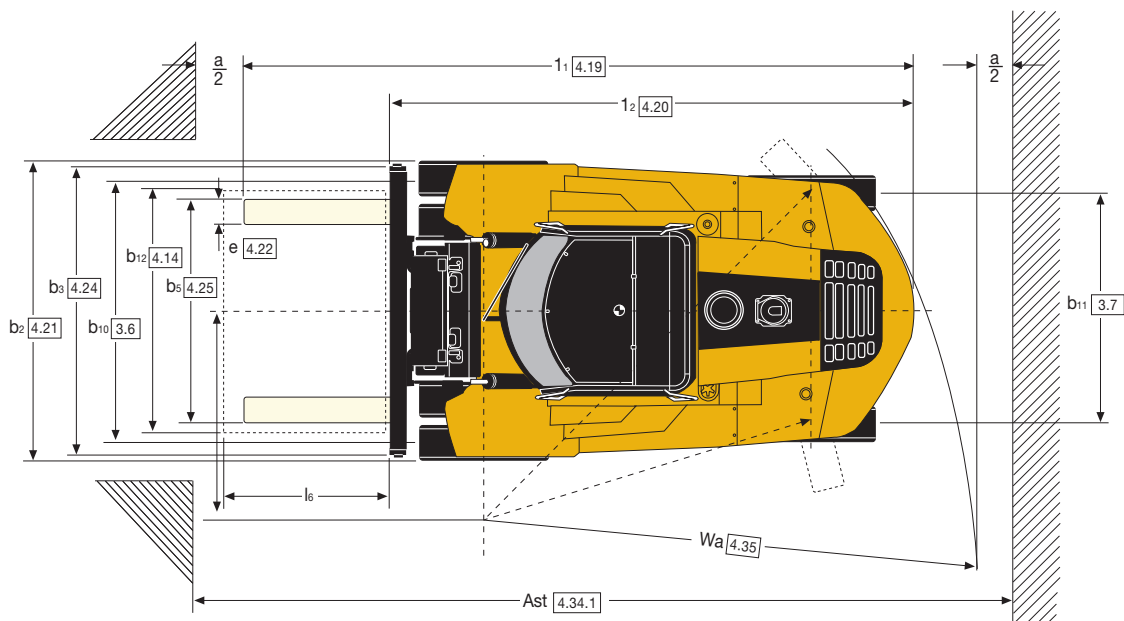
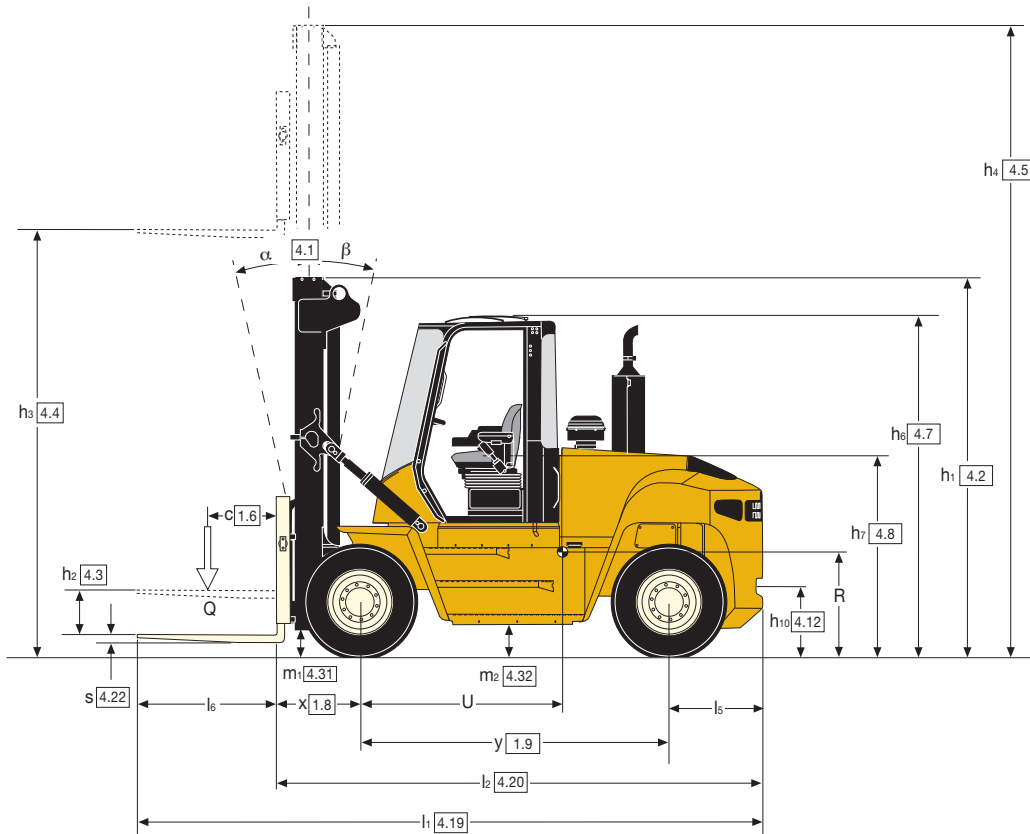
## Diesel Forklift Trucks

**8,000kg / 9,000kg / 10,000kg / 12,000kg / 13,000kg / 14,000kg / 16,000kg**

- Choice of Powertrain and Hydraulic configurations, to suit specific customer requirements.
- Load Sensing Hydraulics, with highly efficient 'variable displacement' pumps
- Nominal lifting capacities including side shift carriage - Full capacity up to 6200mm lift height
- New transmissions, with smooth auto-shift system, also featuring protective lock-out on forward-reverse shifting and engine and transmission protection systems as standard
- Fastest lifting speeds, with a practical average of up to 0.35 m/sec
- Excellent ergonomics with renowned Yale ERGO Cab



# Truck Dimensions



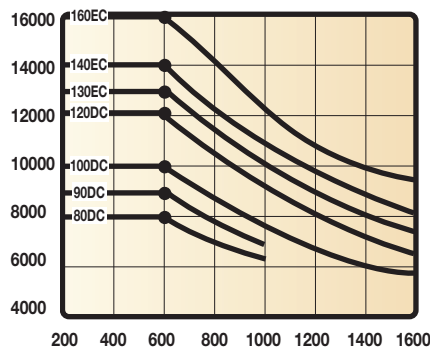
## Rated capacities

### Load Centre

Distance from forks to centre of gravity of load.

### Rated Load

Based on vertical masts as shown in VDI table.



☉ = Centre of gravity of unladen truck

$$Ast = Wa + x + l_6 + a \quad (\text{if } b_{12/2} < b_{13})$$

$$Ast = Wa + (l_6 - x) 2 + (b_{12} - b_{13}) 2 + a \quad (\text{if } b_{12/2} > b_{13})$$

a = minimum operating clearance

l<sub>6</sub> = load length

b<sub>12</sub> = load width

(VDI-standard = 200 mm

BITA recommendation = 300 mm)

## GDP 80DC, GDP 90DC, GDP 100DCS Mast details and capacity ratings (kg) - pneumatic tyres

Model		GDP 80 DC					GDP 90 DC				GDP 100 DCS			
Tyre size, front		9.00 - 20 14PR					9.00 - 20 14PR				10.00 - 20 16PR			
Overall width, front		2425mm					2425mm				2448mm			
Mast	h1 (mm)	h2+s (mm)	h3+s (mm)	h4 (mm)	Tilt		Forks	Integral Sideshift	Forks	Integral Sideshift	Forks	Integral Sideshift		
					F	B	Load Centre (kg)		Load Centre (kg)		Load Centre (kg)		Load Centre (kg)	
							600	600	600	600	600	600		
2 Stage LFL	3329*	-	3750	5172*	15	12	8600	8000	9500	9000	10600	10000		
	3779*	-	4650	6072*	15	12	8600	8000	9500	9000	10600	10000		
	4155*	-	5400	6822*	15	12	8600	8000	9500	9000	10600	10000		
3 Stage FFL	3021*	1401	5600	7006*	15	12	7300	7080	8200	7980	9740	9180		
	3154*	1534	6000	7406*	15	12	7160	6940	8060	7820	9680	9140		
	3321*	1701	6500	7906*	15	12	6980	6760	7860	7640	9440	8900		
	3487*	1867	7000	8406*	15	12	6780	6580	7640	7420	9180	8700		

\*Add 25mm if optional 10.00 x 20 tyres are fitted.

## GDP 100DC, GDP 120DC Mast details and capacity ratings (kg) - pneumatic tyres

Model		GDP 100 DC					GDP 120 DC					
Tyre size, front		10.00 - 20 16PR					10.00 - 20 16PR					
Overall width, front		2448mm					2448mm					
Mast	h1 (mm)	h2+s (mm)	h3+s (mm)	h4 (mm)	Tilt		Forks	Integral Sideshift	Forks	Integral Sideshift		
					F	B	Load Centre (kg)		Load Centre (kg)		Load Centre (kg)	
							600	600	600	600		
2 Stage LFL	3630	-	3750	5470	15	12	10450	10000	12700	12000		
	4080	-	4650	6370	15	12	10450	10000	12700	12000		
	4455	-	5400	7120	15	12	10450	10000	12700	12000		
	4855	-	6200	7920	15	12	10450	10000	12700	12000		
	5105	-	6700	8420	15	12	10300	9700	12400	11700		
3 Stage FFL	3045	1435	5600	7030	15	12	10060	9440	11420	10720		
	3180	1570	6000	7430	15	12	9900	9280	11240	10560		
	3345	1735	6500	7930	15	12	9680	9080	11020	10360		
	3510	1900	7000	8430	15	12	9640	8860	10780	10140		

\*Add 25mm if optional 10.00 x 20 tyres are fitted.

## GDP 130EC, GDP 140EC, GDP 160EC Mast details and capacity ratings (kg) - pneumatic tyres

Model		GDP 130 EC					GDP 140 EC				GDP 160 EC			
Tyre size, front		12.00 - 20 16PR					12.00 - 20 16PR				12.00 - 20 16PR			
Overall width, front		2607mm					2607mm				2607mm			
Mast	h1 (mm)	h2+s (mm)	h3+s (mm)	h4 (mm)	Tilt		Forks	Integral Sideshift	Forks	Integral Sideshift	Forks	Integral Sideshift		
					F	B	Load Centre (kg)		Load Centre (kg)		Load Centre (kg)		Load Centre (kg)	
							600	600	600	600	600	600		
2 Stage LFL	3640	-	3750	5470**	15	12	13600	13000	15000	14000	16400	16000		
	4090	-	4650	6370**	15	12	13600	13000	15000	14000	16400	16000		
	4465	-	5400	7120**	15	12	13600	13000	15000	14000	16400	16000		
	4865	-	6200	7920**	15	12	13600	13000	15000	14000	16400	16000		
	5115	-	6700	8420**	15	12	13450	12700	14800	13800	16200	15800		
3 Stage FFL	3070	1300**	4400	6080**	15	12	12800	11940	13720	12820	15600	14620		
	3270	1500**	5000	6680**	15	12	12740	11880	13660	12760	15540	14560		
	3600	1830**	6000	7680**	15	12	12340	11520	13260	12380	15120	14160		
	3940	2160**	7000	8680**	15	12	11760	10980	12680	11840	14520	13600		

\*Add 25mm if optional 10.00 x 20 tyres are fitted. \*\*Deduct 20mm for GDP130EC with 11.00 x 20 tyres.

## Powertrains

	1.3	Drive: electric (battery or mains), diesel, petrol, LPG	Diesel	Diesel	Diesel	
Engine	7.1	Engine manufacturer/type	Cummins QSB 6.7 Stage IIIA	Cummins QSB 4.5 Stage IV	Cummins QSB 6.7 Stage IV	
	7.2	Engine power according to ISO1585 (nominal)	kW @rpm	116 @ 2300	119 @ 2300	122 @ 2300
	7.2.1	Engine power according to ISO1585 (maximum)	kW @rpm	116 @ 2300	122 @ 2200	125 @ 2200
	7.3	Rated speed	min <sup>-1</sup>	2300	2300	2300
	7.3.1	Torque (maximum)	Nm@rpm	597 @ 1500	624 @ 1500	732 @ 1500
	7.4	Number of cylinders/displacement	cm <sup>3</sup>	6 / 6700	4 / 4500	6 / 6700
	7.5	Fuel consumption according VDI cycle	l/h	call	call	call
Drive train	8.1	Type of drive unit	hydrodynamic 3 speed	hydrodynamic 3 speed	hydrodynamic 3 speed	
	8.2	Transmission manufacturer/type	ZF / WG161	ZF / WG161	ZF / WG161	
	8.6	Wheel drive/drive axle manufacturer/type	Axle Tech / PRC 425	Axle Tech / PRC 425	Axle Tech / PRC 425	
	8.11	Service brake	oil-immersed / wet disc	oil-immersed / wet disc	oil-immersed / wet disc	
8.12	Parking brake	dry disc on drive axle	dry disc on drive axle	dry disc on drive axle		

# VDI 2198 - General Specifications, Diesel powered GDP 80DC, 90DC, 100DC, 100DCS, 120DC, 130EC, 140

<b>Distinguishing mark</b>	1.1	Manufacturer (abbreviation)		Yale	Yale	Yale
	1.2	Manufacturer's type designation		<b>GDP 80 DC</b>	<b>GDP 90 DC</b>	<b>GDP 100 DCS</b>
	1.3	Drive: electric (battery or mains), diesel, petrol, fuel gas		Diesel	Diesel	Diesel
	1.4	Operator type: hand, pedestrian, standing, seated, order-picker		Seat	Seat	Seat
	1.5	Rated capacity/rated load	Q (kg)	8000	9000	10000
	1.6	Load centre distance	c (mm)	600	600	600
	1.8	Load distance, centre of drive axle to fork	x (mm)	785	785	819
	1.9	Wheelbase	y (mm)	2700	2700	2700
	<b>Weights</b>	2.1	Service weight ★	kg	12413	12748
2.2		Axle loading, laden front/rear ★	kg	19132 / 1881	20585 / 1720	23144 / 2107
2.3		Axle loading, unladen front/rear ★	kg	6304 / 6109	6288 / 6460	7943 / 7344
<b>Tyres/chassis</b>	3.1	Tyres: P=pneumatic, V=cushion, SC=supercushion		P	P	P
	3.2	Tyre size, front		9.00-20 14PR	9.00-20 14PR	10.00-20 16PR
	3.3	Tyre size, rear		9.00-20 14PR	9.00-20 14PR	10.00-20 16PR
	3.5	Wheels, number front/rear (x = driven wheels)		4X / 2	4X / 2	4X / 2
	3.6	Tread, front	b10 (mm)	2190	2190	2190
	3.7	Tread, rear	b11 (mm)	1930	1930	1930
	<b>Dimensions</b>	4.1	Tilt of mast/fork carriage forward/backward	$\alpha / \beta$ (°)	15 / 12	15 / 12
4.2		Height of mast, lowered	h1 (mm)	4155	4155	4455
4.3		Free lift ▼	h2 (mm)	0	0	0
4.4		Lift ▼	h3 (mm)	5339	5339	5346
4.5		Height, mast extended +	h4 (mm)	6822	6822	7118
4.7		Height of overhead guard (cabin) ○	h6 (mm)	3015	3015	3035
4.8		Seat height/stand height ✕	h7 (mm)	1742	1742	1762
4.12		Coupling height	h10 (mm)	635	635	655
4.17		Overhang	l5 (mm)	809	809	809
4.19		Overall length	l1 (mm)	5514	5514	5548
4.20		Length to face of forks	l2 (mm)	4294	4294	4328
4.21		Overall width	b1/b2 (mm)	2425	2425	2448
4.22		Fork dimensions	s/e/l (mm)	65 / 200 / 1220	65 / 200 / 1220	75 / 200 / 1220
4.23		Fork carriage DIN15176, class/type A,B		75mm pin type	75mm pin type	75mm pin type
4.24		Fork carriage width ▶	b3 (mm)	2350	2350	2350
4.25		Distance between fork arms	b5 (mm)	520 - 2230	520 - 2230	520 - 2230
4.30		Reach, lateral from vehicle centreline ✱	b8 (mm)	150	150	150
4.31		Ground clearance, laden, below mast ✱	m1 (mm)	248	248	225
4.32		Ground clearance, centre of wheelbase	m2 (mm)	274	274	292
4.34.1	Aisle width for pallets 1000 long x 1200 crossways ●	Ast (mm)	6099	6099	6133	
4.35	Turning radius	Wa (mm)	3914	3914	3914	
4.36	Internal turning radius	b13 (mm)	1433	1433	1432	
<b>Performance data</b>	5.1	Travel speed, laden/unladen Stage IIIA engine	km/h	30.2 / 31.0	30.2 / 31.0	30.6 / 31.2
		Travel speed, laden/unladen Stage IIIB engine	km/h	30.2 / 31.0	30.2 / 31.0	30.6 / 31.2
	5.2	Lift speed, laden/unladen Stage IIIA engine *	m/s	0.47 / 0.52	0.47 / 0.52	0.36 / 0.40
		Lift speed, laden/unladen Stage IIIB engine **	m/s	0.52 / 0.61	0.52 / 0.61	0.40 / 0.47
	5.2.1	Lift speed, laden/unladen (120ccm) Stage IIIA engine ***	m/s	0.57 / 0.70	0.57 / 0.70	0.43 / 0.53
		Lift speed, laden/unladen (120ccm) Stage IIIB engine ***	m/s	0.57 / 0.70	0.57 / 0.70	0.43 / 0.53
	5.3	Lowering speed, laden/unladen Stage IIIA engine	m/s	0.50 / 0.48	0.50 / 0.48	0.50 / 0.48
		Lowering speed, laden/unladen Stage IIIB engine	m/s	0.50 / 0.48	0.50 / 0.48	0.50 / 0.48
	5.5	Drawbar pull, laden/unladen Stage IIIA engine	N	104.6 / 36	104.4 / 36.5	99.8 / 41.4
		Drawbar pull, laden/unladen Stage IIIB engine	N	104.6 / 36	104.4 / 36.5	99.8 / 41.4
	5.7	Gradeability, laden/unladen Stage IIIA engine ■	%	63 / 32	57 / 31	46 / 31
	Gradeability, laden/unladen Stage IIIB engine ■	%	63 / 32	57 / 31	46 / 31	
5.9	Acceleration time, laden/unladen Stage IIIA engine	s	5.5 / 4.7	5.6 / 4.8	6.2 / 5.3	
	Acceleration time, laden/unladen Stage IIIB engine	s	5.3 / 4.6	5.4 / 4.7	6.0 / 5.1	
5.10	Service brake		Oil-immersed disc	Oil-immersed disc	Oil-immersed disc	
<b>Addition data</b>	10.1	Operating pressure for attachments	bar	193	93	193
	10.2	Oil volume for attachments	l/min	100	100	100
	10.3	Hydraulic tank, capacity	litres	100	100	100
	10.4	Fuel tank, capacity	litres	128	128	128
	10.5	Steering design		Hydrostatic	Hydrostatic	Hydrostatic
	10.6	Number of steering rotation		3.7	3.7	3.7
	10.7	Sound pressure level at the driver's seat	dB (A)	73	73	73
	10.7.1	Guaranteed sound power 2001/14/EC	dB (A)	108	108	107
	10.8	Towing coupling, type DIN		Pin	Pin	Pin

★ Measured according to the test cycles and based on the weighting values contained in EN12053.

▼ Bottom of forks  
+ w/o load backrest

○ +/- 3% tolerance depend on tyre inflated pressure / or tyre brand

✕ Full suspension seat in depressed position  
▶ Add 50mm with load backrest

● Stacking aisle width is based on the VDI standard calculation as shown on illustration. The British Industrial Truck Association recommends the addition of 100 mm to the total clearance

(dimension a) for extra operating margin at the rear of truck.

■ Gradeability figures are provided for comparison of tractive performance, but are not intended to endorse the

# EC, 160EC

Yale	Yale	Yale	Yale	Yale	1.1
<b>GDP 100 DC</b>	<b>GDP 120 DC</b>	<b>GDP 130 EC</b>	<b>GDP 140 EC</b>	<b>GDP 160 EC</b>	1.2
Diesel	Diesel	Diesel	Diesel	Diesel	1.3
Seat	Seat	Seat	Seat	Seat	1.4
10000	12000	13000	14000	16000	1.5
600	600	600	600	600	1.6
819	819	896	896	896	1.8
2900	2900	3300	3300	3300	1.9
15180	16034	18429	19064	20119	2.1
22808 / 2336	25706 / 2301	29391 / 2121	30768 / 2336	33613 / 2517	2.2
7969 / 7211	7875 / 8159	10376 / 8053	10364 / 8700	10343 / 9776	2.3
P	P	P	P	P	3.1
10.00-20 16PR	10.00-20 16PR	12.00-20 16PR	12.00-20 16PR	12.00-20 16PR	3.2
10.00-20 16PR	10.00-20 16PR	12.00-20 16PR	12.00-20 16PR	12.00-20 16PR	3.3
4X / 2	4X / 2	4X / 2	4X / 2	4X / 2	3.5
2190	2190	2276	2276	2276	3.6
1930	1930	2000	2000	2000	3.7
15 / 12	15 / 12	15 / 12	15 / 12	15 / 12	4.1
4455	4455	4466	4466	4466	4.2
0	0	0	0	0	4.3
5346	5346	5310	5310	5310	4.4
7118	7118	7120	7120	7120	4.5
3035	3035	3064	3064	3064	4.7
1762	1762	1791	1791	1791	4.8
653	653	684	684	684	4.12
809	809	809	809	809	4.17
5748	5748	6225	6225	6225	4.19
4528	4528	5005	5005	5005	4.20
2448	2448	2607	2607	2607	4.21
75 / 200 / 1220	75 / 200 / 1220	90 / 200 / 1220	90 / 200 / 1220	90 / 200 / 1220	4.22
75 mm pin type	75 mm pin type	85 mm pin type	85 mm pin type	85 mm pin type	4.23
2350	2350	2500	2500	2500	4.24
520 - 2230	520 - 2230	520 - 2380	520 - 2380	520 - 2380	4.25
150	150	200	200	200	4.30
225	225	178	178	178	4.31
292	292	346	346	346	4.32
6333	6333	6880	6880	6880	4.34.1
4111	4111	4584	4584	4584	4.35
1475	1475	1754	1754	1754	4.36
30.6 / 31.2	30.5 / 31.1	26.6 / 28.0	26.6 / 28.0	26.3 / 27.3	5.1
30.6 / 31.2	30.5 / 31.1	26.6 / 28.0	26.6 / 28.0	26.3 / 27.9	
0.36 / 0.40	0.36 / 0.40	- -	- -	- -	5.2
0.40 / 0.47	0.40 / 0.47	- -	- -	- -	
0.43 / 0.53	0.43 / 0.53	0.34 / 0.41	0.34 / 0.41	0.34 / 0.41	5.21
0.43 / 0.53	0.43 / 0.53	0.36 / 0.41	0.36 / 0.41	0.36 / 0.41	
0.50 / 0.48	0.50 / 0.48	0.50 / 0.48	0.50 / 0.48	0.50 / 0.48	5.3
0.50 / 0.48	0.50 / 0.48	0.50 / 0.48	0.50 / 0.48	0.50 / 0.48	
99.8 / 41.4	99.2 / 44.9	118.6 / 51.4	113.4 / 52.9	113 / 53.8	5.5
99.8 / 41.4	99.2 / 44.9	118.6 / 51.4	113.4 / 52.9	113 / 53.8	
46 / 31	38 / 30	45 / 33	38 / 33	35 / 31	5.7
46 / 31	38 / 30	45 / 33	38 / 33	35 / 31	
6.2 / 5.3	6.2 / 5.3	6.3 / 5.4	6.2 / 5.5	6.5 / 5.6	5.9
6.0 / 5.1	6.1 / 5.2	6.1 / 5.3	6.2 / 5.4	6.3 / 5.5	
Oil-immersed disc	Oil-immersed disc	Oil-immersed disc	Oil-immersed disc	Oil-immersed disc	5.10
193	193	193	193	193	10.1
100	100	100	100	100	10.2
100	100	140	140	140	10.3
128	128	128	128	128	10.4
Hydrostatic	Hydrostatic	Hydrostatic	Hydrostatic	Hydrostatic	10.5
3.7	3.7	3.7	3.7	3.7	10.6
73	73	73	73	73	10.7
107	107	107	107	107	10.7.1
Pin	Pin	Pin	Pin	Pin	10.8

Distinguishing mark

Weights

Tyres/chassis

Dimensions

Performance data

Addition data

operation of vehicle on the stated inclines.  
Follow instructions in the operating manual regarding operation on inclines.

\* 90 cm<sup>3</sup> single hydraulic variable displacement pump  
\*\* 105 cm<sup>3</sup> dual hydraulic variable displacement pumps

\*\*\* Optional on models GDP80-120 DC versions,  
standard on GDP130-160EC versions.

\* Optional equipment



# DC/EC series

Models: GDP 80DC, 90DC, 100DC, 100DCS, 120DC, 130EC, 140EC, 160EC

The DC/EC series offers superior traction, gradeability and drawbar pull. These trucks offer the productive travel / lift speeds and excellent manoeuvrability to meet the demands of tough applications (lumber, pipe, pre-stressed concrete, block/brick, stevedoring and heavy cargo). Special attachments may be required for the applications mentioned above.

## ERGO Operator Compartment

Yale's ERGO Operator Compartment is ergonomically designed for maximum operator productivity.

### Standard features:

- Full-length handrails
- Three non-slip entry steps
- Open floor with low front dash
- Dash instrument panel positioned to the right of driver, with gauges, warning lights and LCD message centre, switches, key start and park brake
- Two way adjustable steering column for height and tilt angle
- Inch brake/brake/accelerator pedal arrangement
- Custom moulded floor mat
- Angled overhead guard bars
- 3-way adjustable right hand armrest
- Wide angle side view mirrors
- Blinking red warning lights on steering column advise driver to refer to instrument panel
- Paddle lever actuators for hydraulic functions and combination paddle/rocker switches for optional attachments
- Joystick or lever controls.
- A full suspension vinyl seat

### Optional enclosed cab option features:

- Curved tempered front and rear glass
- Twin arm single 990mm blade front wiper, rear wiper and top wiper with washer fluid spray
- Ten high capacity outlet vents for heating
- Optional air conditioning, or high capacity air-conditioning, with or without climate control
- Under cab sound insulation
- Cab filter for all incoming air

- Front and rear screen demisting
- Top cover laminated glass
- Storage bins

### Other Features:

- A revised dash display which shows ZF WG161 transmission and hydraulic controller error codes.
- The entire operator cabin tilts manually or electrically for complete service access to major powertrain components.

### Stage IIIA engines

This diesel engine conforms to Stage IIIA emission standards and will be supplied into markets where the NRMM (Non Road Mobile Machinery) Stage IIIB legislation does not apply.

### Cummins QSB 6.7L

The 6-cylinder in-line engine delivers maximum 116kW (155Hp) output at 2300rpm, offering extra durability for long periods of peak power operation.

Smooth torque of 597Nm at 1500rpm provides excellent acceleration and pulling power.

### Stage IV engine:

For use mainly within EU (European Union) countries, trucks with Stage IV diesel engines have significantly reduced exhaust gas emissions. Also by applying Yale Intelligent Design criteria, these trucks are not only cleaner running but also more economical, achieving up to a 20% fuel saving.

## Engines

### Stage IIIA

- Cummins QSB6.7 Diesel engine
- ZF WG161 transmission
- Oil immersed 'wet disc' brakes
- Single/Dual VDP hydraulic pump \*

### Stage IV 8-12

- Cummins QSB4.5 Diesel engine
- ZF WG161 transmission
- Dry drum brakes with air dryer
- Dual VDP hydraulic pumps

### Stage IV 13-16

- Cummins QSB6.7 Diesel engine
- ZF WG161 transmission
- Oil immersed 'wet disc' brakes
- Dual VDP hydraulic pumps

\* 8-12t have a single hydraulic pump as standard, the dual pumps are an option.

### Cummins QSB 4.5L

The 4-cylinder in-line engine delivers max 122kW (160Hp) output at only 1900rpm, offering extra durability for long periods of peak power operation.

Smooth torque of 624Nm at 2200rpm provides excellent acceleration and lugging power.

### Cummins QSB 6.7L

The 6-cylinder in-line engine delivers max 125kW (170Hp) output at only 1900rpm, offering extra durability for long periods of peak power operation.

Smooth torque of 732Nm at 1500rpm provides excellent acceleration and lugging power.

### Powertrain and Hydraulic Configurations

The range of Powertrain and Hydraulics configurations is designed to suit the requirements of specific customer and application needs, enabling operators to focus on lowering ownership costs and increasing productivity.

### Transmissions

All models feature the new ZF 3WG161 transmission, which is designed for more intensive applications, and delivers increased cooling performance, thanks to a heavy duty transmission oil pump (100L/min at 2000rpm), which ensures sufficient cooling oil flow for the clutches and torque converter.

The transmission features a stiffer torque converter and optimised shift points, which contribute to increased efficiency and results in a 5% lower fuel consumption. Lower noise emissions from the ZF transmission are achieved through the use of helical high contact gears.

A transmission is fitted with an automatic gear-change system with a column-mounted lever or optional FDC pedal for direction changes. Extremely smooth shifting and a forward-reverse shifting lock-out function are standard features.

### Power on Demand

The load-sensing hydraulic system provides hydraulic lifting power proportional to the load being lifted. The load-sensing variable-displacement (VDP) pumps ensure that the engine supplies power to the hydraulic pumps only when required. This means that more engine power is available for

driving, delivering increased responsiveness and acceleration for increased productivity.

This also delivers 5% increase in fuel efficiency, so reducing overall operating costs and including the efficiency saving by the ZF transmission. In total this represents a fuel saving of 10%.

Three pre-defined user modes (smooth, medium, direct) can be selected through the user interface. These modes allow fine-tuning of the hydraulic controls, to achieve the best balance for the operator and the application.

### Hydraulics

The load-sensing hydraulic system delivers faster laden lift speeds and increased auxiliary hydraulic speeds for optimum productivity, especially when using attachments.

Leak-free ORFS (O-ring) type fittings are used throughout the truck and the hydraulic oil tank is equipped with an external sight glass for oil level.

Hydraulic oil is effectively filtered at three locations in the system. The filter system uses a full-flow return line filter with 10 micron cartridge on the main system and is designed to maintain a high cleanliness level, ensuring reliable and durable performance.

- A new 105 cm<sup>3</sup> dual piston hydraulic pump is fitted as standard for the GDP80-120 DC Stage IV models to achieve better performance.
- The GDP80-120 DC Stage IIIA models are equipped with 90 cm<sup>3</sup> single piston hydraulic pump as standard. On GDP80-120 DC models 120 cm<sup>3</sup> (2x 60cc) dual piston hydraulic pump is optional.
- The 120 cm<sup>3</sup> dual piston hydraulic pump is standard both GDP130-160 EC Stage IIIA and Stage IV models.

### Protection Systems

The engine, transmission and hydraulic protection systems monitor operating temperatures and pressures, and are designed to ensure the highest level of truck reliability and prevent unplanned downtime, for maximum productivity. The systems initially derate the engine power and finally (on engine and transmission protection) shut the engine down.

- The engine protection system monitors coolant temperature, air intake temperature and oil pressure.
- The transmission protection system monitors pressure, temperature and forward / reverse lockout on direction changes.
- The hydraulic protection system monitors low oil temperature. High oil temperature protection is an optional extra.

### Cooling System

The Quad-Cooler radiator contains four separate cooling cores for the engine, transmission, hydraulics and charge air cooler. The truck is designed to operate in ambient temperatures of -18° C up to 50° C in normal applications, or up to 45° C for heavy duty operations. The cooling air-intake is located at the top of the counterweight, to provide a cleaner air-flow.

### Drive Axle

The wide AxleTech PRC-425 (8-12t) or PRC- 775 (13-16t) drive axle delivers excellent sideways stability and long-term durability thanks to the fitment of strong end-reduction shafts and gears.

All models feature oil-immersed brakes on the drive axle, which are oil cooled for durability and are virtually maintenance free. The parking brake is a dry disc brake on the drive axle input shaft, which is spring applied and hydraulically released

### Steer Axle

The hydrostatic steer axle features a double-acting, single steering cylinder with adjustable end stops. It is renowned for its long lifespan and low maintenance requirements. Load-sensing power steering ensures low-effort operation under all operating conditions

### Chassis

A rugged unitised frame structure is designed for tough, demanding applications and offers excellent stability. All nominal capacities are rated to include the sideshift carriage and the mast is mounted to the frame, not the drive axle. The DC/EC series has been designed to handle loads to high lift heights and there is no reduced capacity up to and including 6200 mm.

### Masts

Yale Hi-Vis™ Simplex and Triplex masts afford operators outstanding visibility. Nested channel design incorporates full-face load rollers and side bearing blocks for durability and lateral rigidity. Rolled mast channels with a generous overlap and formed cross-members provide high strength. The leaf-type chain provides superior strength.

### Carriage

The standard carriage is a pin type, 2350mm or 2500mm wide and is equipped with four angled load rollers. It is an integral piece of the rugged front-end construction and offers excellent visibility. A wide range of carriages is available to suit all applications including non-sideshift, sideshift and individual or simultaneous fork-positioning

### Brakes

Oil-immersed 'wet disc' brakes are standard and contribute to increased productivity and reduced ownership costs

### Electrics

The truck features a 24 Volt system with 70A alternator and CANbus connection in the operator cab, for engine, transmission, hydraulics and instruments cluster. The LCD display with diagnostics for engine, transmission and electrical systems quickly identifies service needs.

### Lights

2 mast mounted work lights, 2 rear cab-mounted work lights, 2 front marker lights, LED direction indicators, stop, tail and reverse lights.

### Serviceability

The DC/EC is easily accessible with unobstructed access to the engine compartment and key components, thanks to the sideways-tilting cab and the 'gull-wing' style hood doors. Conveniently located service check points, as well as centralised, PC accessible diagnostics and CANbus connections (for engine, transmission, hydraulics and instruments) help to reduce fault identification time.

Truck downtime can also be reduced thanks to clean electrical and hydraulic routings plus O-Ring Face Seals are used throughout to eliminate hydraulic leaks. Virtually maintenance free



# DC/EC series

Models: GDP 80DC, 90DC, 100DC, 100DCS, 120DC, 130EC, 140EC, 160EC

**Yale**<sup>®</sup>   
People. Products. Productivity.<sup>™</sup>

Oil-immersed 'wet disc' brakes are available on all models.

Longer service intervals increase uptime and reduce servicing costs - Load Sensing Hydraulics oil change interval is extended up to 6,000 hours from 2,000 hours.

All models' transmission oil change interval is extended to 2,000 hours from 1,000 hours.

## Stage IV engine models additional features:

**Auto Rev-Up:** During lifting and tilting, the engine speed is automatically increased in relation to the joystick/lever position. This feature is active when the transmission is in neutral and inching mode.

**Drive Over Lift (DOL):** Priority is given to driving and fitting at the same time. The hydraulic performance is reduced while driving. Hydraulic performance is automatically increased when engine speed (engine torque) increases. This feature ensures smooth truck operation under all conditions and assists in reducing operator fatigue.

**High performance Mode (HiP):** Selects the engine power mode. In the HiP mode the maximum power and torque is available for hydraulic and drive functions..

**Economy Mode (ECO-eLo):** With a key switch the ECO-eLo engine power mode is enabled. Throttle reaction is less aggressive which saves the fuel. The maximum RPM is reduced to 2000RPM, the duty cycle time is slightly impacted in this mode.

**Alternate idle mode:** The engine RPM is automatically reduced to stand-by mode if no functions are used for 30 seconds. Stage IV engine normal idle is 900RPM (QSB4.5), 850 (QSB6.7), in alternate idle mode 800RPM (QSB4.5), 750RPM (QSB6.7).

## Optional Equipment

- Air conditioning
- High performance air conditioning
- Climate control air conditioning



- Enclosed cab
- High backrest on seat
- DeLuxe air suspension seat
- Trainer seat
- Reading light in the cab
- Sun shade: sliding screen under top window of cab
- Extra air re-circulation fan, inside the cab
- Converter: 24 Volt DC to 12 Volt DC, to use 12 V accessories, with a 'cigarette lighter' socket on the dash panel
- Storage box, lockable in the cab, behind the seat, for storing equipment, tools, etc. Internal 58cm wide x 17cm deep x 17-25cm high. *Note: Not available with Trainer seat*
- Engine block heater, for cold climates
- Electric-powered tilting cab for more convenient service access
- Lifting eyes (2 x on mast and 2 x on rear counterweight)
- Radial pneumatic tyres
- Solid (pneumatic shaped) tyres
- Foot Directional Control pedal
- Joystick hydraulic control
- Hydraulic oil high temperature warning and protection system
- 24/12 volt DC-DC converter
- Various light kits
- Application specific masts (2-Stage Limited Free Lift, 2-Stage Full Free Lift, 3-Stage Full Free Lift), carriages and forks
- Hydraulic accumulator
- Travel speed limiter
- Back-up alarm (self-adjustable to 5dB above ambient)
- Special RAL colours
- Various attachments: Coil ram, paper roll clamp, etc.
- Raised cab position 500mm
- Mast tilt kits: (standard is 15° forward and 12° back) 20.5° forward and 7° back, or 5° forward and 12° back, or 15° forward and 10° back
- Protection rings on the rear steering wheels (to protect the wheel studs and nuts)
- Empty seat shutdown feature with variable time (3-15 minutes) delay. Saves fuel.
- Battery Master Switch, to disconnect the battery. Accessible from outside, mounted on the left-hand battery compartment.

## 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](http://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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