

BYD FORKLIFT WITH GLOBAL PRESENCE IN

6 continents

More than 30 countries

Serviced more than 1,000 satisfied customers

Market share of lithium forklifts exceeds 75%



GREEN LOGISTICS LEADER

COUNTERBALANCE FORKLIFT SERIES

Version: VP 017-02 01



Exclusive Distributor:
Cycle & Carriage Automotive Pte Ltd

209 Pandan Gardens Singapore 609339
Tel: 6568 4600 | Email: bydforklift@cyclecarriage.com.sg



sg.byd.com/forklift-range/



BYD FORKLIFT ADVANTAGES

HIGH
Performance

High traveling speed

High lifting speed

High gradeability

Cornering speed control

Hill hold control

Overload protection

HIGH
Efficiency

1-hour quick charge

Energy saving

Multiple shifts operation adaptable

HIGH
Safety



HIGH
Quality

Relying on advanced technologies in battery, motor, electric control and hydraulic system, BYD creates brilliant products.



High Efficiency

BYD forklifts are equipped with high capacity lithium iron-phosphate battery and high efficiency charger, which ensures the strongest endurance and adapt to the most complex working conditions. It saves 90% charging time compared to lead-acid forklift.

High Safety

Compared to lead-acid battery forklift, BYD lithium iron-phosphate battery forklift produce zero emission or pollution during charging that need no special charging room. In order to ensure the safety and stability of the battery, there are a series of extreme tests including overcharge, over discharge, short circuit, oven, crush and burning to name a few. Strong scientific capability and rigorous testing processes comprehensively guarantee the safety and excellent performance of BYD lithium iron-phosphate battery.

Long Life Cycle

Battery life is above 4,000 cycles or over 10 years. No need for battery replacement under normal use.

Strong Temperature Adaptability

Applies to the working condition from minus 40 degree Celsius to 60 degree Celsius with good performance.

Zero Pollution, Zero Emission

The battery is composed of recyclable green materials. No heavy metal pollution. No toxic fumes or gas emissions during operation.

Maintenance Free

No need for daily battery check or periodic maintenance. No need to add electrolyte or distilled water.

Opportunistic Charging

Opportunistic charging during working break and lunch allow BYD forklift run all day. No memory effect.

BYD Lithium Iron-Phosphate Battery meets the following standards

UL 1642

UL 2580

UN 38.3

QC / T 743

Professional solutions for different industries

BYD forklift truck provides professional solutions for various industries to adapt to complex working conditions.

Highlights of BYD Counterbalance Forklifts

Greater visibility through the mast

Finger control system

Four-way valve standard

LED lights

Full-color TFT display

Functions

- Fork low position damper
- Speed limit when lifting
- Power-off protection
- Overload protection
- Low battery protection
- Operating presence sensing seat
- Turning speed limit
- Regenerative braking
- Hill hold control
- Blue light protection

Counterbalance Forklift Layout

Counterbalance Forklifts Load Diagrams and Mast Specifications

ECB16 / ECB18 ECB16L / ECB18L mast specifications

ECB16 / ECB18 ECB16L / ECB18L	Lift height	Height, free lift	Height, mast lowered	Height, mast extended	Load back-rest height	Fore-rake angle	Back-rake angle
Duplex Standard Mast	3000	125	2020	3985	950	5°	7°
	3300	125	2170	4285	950	5°	7°
	3500	125	2270	4485	950	5°	7°
	4000	125	2570	4985	950	5°	7°
	4500	125	2820	5485	950	5°	5°
	5000	125	3120	5985	950	5°	5°
Duplex FFL Mast	3000	1035	2020	3985	950	5°	7°
	3300	1185	2170	4285	950	5°	7°
	3500	1285	2270	4485	950	5°	7°
	4000	1585	2570	4985	950	5°	7°
Triplex FFL (3 Cylinder) Mast	4500	1068	2053	5485	950	5°	5°
	4800	1168	2153	5785	950	5°	5°
	5000	1218	2203	5985	950	5°	5°
	5500	1418	2403	6485	950	5°	5°
	6000	1688	2673	6985	950	5°	3°
	6500	1868	2853	7485	950	5°	3°
Triplex FFL (4 Cylinder) Mast	4000	810	1895	4985	950	5°	5°
	4500	1060	2045	5485	950	5°	5°
	4800	1160	2145	5785	950	5°	5°
	5000	1210	2195	5985	950	5°	5°
	5500	1410	2395	6485	950	5°	5° / 3°
	6000	1680	2665	6985	950	5°	3°
	6500	1860	2845	7485	950	5°	3°

ECB30 / ECB35 mast specifications

ECB30 / ECB35	Lift height	Height, free lift	Height, mast lowered	Height, mast extended	Load back-rest height	Fore-rake angle	Back-rake angle
Duplex Standard Mast	3000	130	2105	4000	950	5°	8°
	3300	130	2255	4300	950	5°	8°
	3500	130	2355	4500	950	5°	8°
	3700	130	2455	4700	950	5°	8°
	4000	130	2605	5000	950	5°	8°
	4500	130	2905	5500	950	5°	6°
	4800	130	3055	5800	950	5°	6°
	5000	130	3205	6000	950	5°	6°
	5500	130	3455	6500	950	5°	6°
	6000	130	3705	7000	950	5°	6°
Duplex FFL Mast	3000	1105	2105	4000	950	5°	8°
	3300	1255	2255	4300	950	5°	8°
	3500	1355	2355	4500	950	5°	8°
	4000	1605	2605	5000	950	5°	8°
Triplex FFL (3 Cylinder) Mast	4000	1090	2090	5000	950	5°	6°
	4350	1205	2205	5350	950	5°	6°
	4500	1255	2255	5500	950	5°	6°
	4800	1355	2355	5800	950	5°	6°
	5000	1420	2420	6000	950	5°	6°
	5300	1520	2520	6300	950	5°	6°
	5500	1585	2585	6500	950	5°	6°
	6000	1750	2750	7000	950	5°	6°
	6500	1910	2910	7500	950	5°	3°

ECB20 / ECB25 MAST SPECIFICATIONS

ECB20 / ECB25	Lift height	Height, free lift	Height, mast lowered	Height, mast extended	Load back-rest height	Fore-rake angle	Back-rake angle
Duplex Standard Mast	3000	140	1990	4240	950	5°	9°
	3500	140	2290	4740	950	5°	9°
	4000	140	2540	5240	950	5°	9°
	4500	140	2840	5740	950	5°	6°
	5000	140	3090	6240	950	5°	6°
Duplex FFL Mast	3000	1050	2040	4240	950	5°	9°
	3500	1300	2290	4740	950	5°	9°
	4000	1550	2540	5240	950	5°	9°
Triplex FFL (3 Cylinder) Mast	4000	953	1943	5240	950	5°	6°
	4500	1103	2093	5740	950	5°	6°
	4800	1203	2193	6040	950	5°	6°
	5000	1303	2293	6240	950	5°	6°
	5300	1373	2363	6540	950	5°	6°
	5500	1503	2493	6740	950	5°	6°
	6000	1703	2693	7240	950	5°	6°
	6500	1853	2843	7740	950	5°	3°

ECB40 / ECB45 / ECB50 mast specifications

ECB40 / ECB45 / ECB50	Lift height	Height, free lift	Height, mast lowered	Height, mast extended	Load back-rest height	Fore-rake angle	Back-rake angle
Duplex Standard Mast	3000	145	2350	4255	1200	6°	8°
	3500	145	2600	4755	1200	6°	8°
	4000	145	2850	5255	1200	6°	8°
	4500	145	3100	5755	1200	6°	6°
	5000	145	3350	6255	1200	6°	6°
Duplex FFL Mast	3000	1035	2235	4255	1200	6°	8°
	3300	1185	2385	4555	1200	6°	8°
	3500	1285	2485	4755	1200	6°	8°
	4000	1585	2785	5255	1200	6°	8°
Triplex FFL (3 Cylinder) Mast	4000	945	2145	5255	1200	6°	6°
	4500	1115	2315	5755	1200	6°	6°
	4800	1215	2415	6055	1200	6°	6°
	5000	1285	2485	6255	1200	6°	6°
	5500	1445	2645	6755	1200	6°	6°
	6000	1615	2815	7255	1200	6°	6°
	6500	1785	2985	7755	1200	6°	3°
	6800	1885	3085	8055	1200	6°	3°

COUNTER BALANCE FORKLIFT SPECIFICATIONS

Identification	Manufacturer			BYD	BYD	BYD	BYD	BYD	BYD
	Model			ECB16	ECB18	ECB16L	ECB18L	ECB20B	ECB25B
	Driver			Electric	Electric	Electric	Electric	Electric	Electric
	Operator type			Seated	Seated	Seated	Seated	Seated	Seated
	Rated capacity	Q	kg	1600	1800	1600	1800	2000	2500
	Load center	c	mm	500	500	500	500	500	500
	Load distance, center of drive axle to fork	x	mm	365	365	420	420	425	425
	Wheelbase	y	mm	1360	1360	1400	1400	1505	1505
Weights	Service weight including battery		kg	3100	3300	3340	3490	3600	4200
	Axle load, with load,front/rear		kg	4083/617	4495/605	4206/734	4553/737	4901/699	5811/889
	Axle load, without load, front/rear		kg	1466/1634	1551/1749	1555/1785	1570/1920	1672/1928	1775/2425
Wheels	Tyres			SE	SE	SE	SE	SE	SE
	Tyre size, front			18x7-8	18x7-8	6.00-9	6.00-9	21x8-9	21x8-9
	Tyre size, rear			15x4.5-8	15x4.5-8	16x6-8	16x6-8	18x7-8	18x7-8
	Wheels, number front/rear (x=driveing wheels)			2x/2	2x/2	2x/2	2x/2	2x/2	2x/2
	Track width, front	b10	mm	890	890	890	890	1000	1000
	Track width, rear	b11	mm	190	190	870	870	955	955
Dimensions	Tilt of mast/fork carriage forward/backward	α/β	°	5/7	5/7	5/8	5/8	5/8	5/8
	Height, mast lowered	h1	mm	2020	2020	2020	2020	2030	2030
	Free lift	h2	mm	125	125	110	110	140	140
	Lift height	h3	mm	3000	3000	3000	3000	3000	3000
	Height, mast extended	h4	mm	3985	3985	4040	4040	3990	3990
	Height of overhead guard	h6	mm	2050	2050	2060	2060	2195	2195
	Seat height	h7	mm	985	985	1005	1005	1100	1100
	Coupling height	h10	mm	480	480	270	270	333	333
	Overall length	l1	mm	2935	3005	3195	3195	3375	3375
	Length to face of forks	l2	mm	1935	2005	2125	2125	2305	2305
	Overall width	b1	mm	1050	1050	1050	1050	1195	1195
	Fork dimensions	s/e/l	mm	35/100/1000	35/100/1000	40/100/1000	40/100/1000	40/120/1070	40/120/1070
	Carriage Type(A/B) according ISO 2328			2A	2A	2A	2A	2A	2A
	Fork carriage width	b3	mm	1020	1020	1020	1020	1040	1040
	Ground clearance, with load,below mast	m1	mm	95	95	85	85	95	95
	Ground clearance, center of wheelbase	m2	mm	95	95	85	85	105	105
	Aisle width for pallets 1000x1200 crossways	Ast	mm	3261	3331	3799	3799	3646	3646
	Aisle width for pallets 800x1200 crossways	Ast	mm	3385	3455	3600	3600	3845	3845
	Min. turning radius	Wa	mm	1570	1640	1860	1860	2020	2020
	Inner turning radius	b13	mm	0	0	537	537	555	555
Performance	Travel speed, with/without load		Km/h	16/16	16/16	16/16	16/16	20/20	20/20
	Lift speed, with/without load		mm/s	500/550	500/550	420/450	420/450	420/450	420/450
	Lowering speed, with/without load		mm/s	530/500	530/500	520/480	520/480	500/400	500/400
	Max.drawbar pull, with/without load		KN	9.0/7.9	9.0/8.0	10.0/9.5	10.0/9.5	12.7/9.0	12.5/9.5
	Max.gradeability, with/without load		%	20/20	18/20	20/20	20/20	20/20	20/20
	Acceleration time,with/without load		s	4.5/4.0	4.5/4.0	6.0/5.0	6.0/5.0	4.9/4.3	4.9/4.3
	Service brake			Mech./Hydr.	Mech./Hydr.	Mech./Hydr.	Mech./Hydr.	Mech./Hydr.	Mech./Hydr.
Electrics	Drive motor rating S2 60 min.		kW	5×2	5×2	8.5	8.5	8×2	8×2
	Lift motor rating at S3 15%		kW	16	16	16	16	20.7	20.7
	Battery voltage, nominal capacity		V/Ah	80/270	80/270	80/270	80/270	80/270	80/270
	Battery weight		kg	640	640	650	650	540	840
Others	Motor control system			AC	AC	AC	AC	AC	AC
	Operating pressure for attachments		Mpa	16	18	≤16	≤16	14.2	16.8
	Sound level at the driver's ear		dB(A)	≤75	≤75	≤75	≤75	≤75	≤75
	Towing coupling, type			PIN	PIN	PIN	PIN	PIN	PIN

COUNTER BALANCE FORKLIFT SPECIFICATIONS

Identification	Manufacturer			BYD	BYD	BYD	BYD	BYD
	Model			ECB27B	ECB20D	ECB25D	ECB30B	ECB35B
	Driver			Electric	Electric	Electric	Electric	Electric
	Operator type			Seated	Seated	Seated	Seated	Seated
	Rated capacity	Q	kg	2700	2000	2500	3000	3500
	Load center	c	mm	600	500	500	500	500
	Load distance, center of drive axle to fork	x	mm	430	425	425	460	460
	Wheelbase	y	mm	1505	1505	1505	1725	1725
Weights	Service weight including battery		kg	4460	3620	4220	4840	5440
	Axle load, with load,front/rear		kg	6338/822	4920/700	5830/890	6693/1147	7722/1218
	Axle load, without load, front/rear		kg	1799/2661	1690/1930	1793/2427	2023/2817	2274/3166
Wheels	Tyres			Cushion	SE	SE	SE	SE
	Tyre size, front			21x8x15	21x8-9	21x8-9	23x10-12	23x10-12
	Tyre size, rear			18x6x12.125	18x7-8	18x7-8	200/50-10	200/50-10
	Wheels, number front/rear (x=driveing wheels)			2x/2	2x/2	2x/2	2x/2	2x/2
	Track width, front	b10	mm	1000	970	970	1110	1110
	Track width, rear	b11	mm	965	955	955	955	955
Dimensions	Tilt of mast/fork carriage forward/backward	α/β	°	5/5	6/9	6/9	5/8	5/8
	Height, mast lowered	h1	mm	2030	1990	1990	2105	2105
	Free lift	h2	mm	140	140	140	130	130
	Lift height	h3	mm	3000	3000	3000	3000	3000
	Height, mast extended	h4	mm	3990	4240	4240	4000	4000
	Height of overhead guard	h6	mm	2195	2195	2195	2215	2215
	Seat height	h7	mm	1100	1100	1100	1140	1140
	Coupling height	h10	mm	333	333	333	333	333
	Overall length	l1	mm	3390	3375	3375	3630	3630
	Length to face of forks	l2	mm	2320	2305	2305	2560	2560
	Overall width	b1	mm	1195	1195	1195	1360	1360
	Fork dimensions	s/e/l	mm	45/125/1070	40/120/1070	40/120/1070	50/125/1070	50/125/1070
	Carriage Type(A/B) according ISO 2328			3A	2A	2A	3A	3A
	Fork carriage width	b3	mm	1040	1040	1040	1100	1100
	Ground clearance, with load,below mast	m1	mm	95	95	95	110	110
	Ground clearance, center of wheelbase	m2	mm	105	105	105	130	130
	Aisle width for pallets 1000x1200 crossways	Ast	mm	3646	3646	3646	3875	3875
	Aisle width for pallets 800x1200 crossways	Ast	mm	3773	3845	3845	4070	4070
	Min. turning radius	Wa	mm	1895	2020	2020	2210	2210
	Inner turning radius	b13	mm	0	555	555	485	485
Performance	Travel speed, with/without load		Km/h	18/18	16/16	16/16	20/20	20/20
	Lift speed, with/without load		mm/s	420/450	420/450	420/450	380/450	380/450
	Lowering speed, with/without load		mm/s	500/400	500/400	500/400	550/450	550/450
	Max.drawbar pull, with/without load		KN	12/10	12.7/9.0	12.5/9.5	17.4/12.2	17.2/13.6
	Max.gradeability, with/without load		%	18/20	16/20	16/20	20/20	20/20
	Acceleration time,with/without load		s	5.1/4.5			4.9/4.3	4.9/4.3
	Service brake			Mech./Hydr.	Mech./Hydr.	Mech./Hydr.	Mech./Hydr.	Mech./Hydr.
Electrics	Drive motor rating S2 60 min.		kW	8×2	8.5	8.5	10×2	10×2
	Lift motor rating at S3 15%		kW	20.7	20.7	20.7	24	24
	Battery voltage, nominal capacity		V/Ah	80/270	80/270	80/270	80/540	80/540
	Battery weight		kg	840	540	840	860	1460
Others	Motor control system			AC	AC	AC	AC	AC
	Operating pressure for attachments		Mpa	17.2	14.2	16.8	16	18
	Sound level at the driver's ear		dB(A)	≤75	≤75	≤75	≤75	≤75
	Towing coupling, type			PIN	PIN	PIN	PIN	PIN

COUNTER BALANCE FORKLIFT SPECIFICATIONS

Identification	Manufacturer			BYD	BYD	BYD	BYD	BYD
	Model			ECB30D	ECB35D	ECB40 B/C	ECB45 B/C	ECB50 B/C
	Driver			Electric	Electric	Electric	Electric	Electric
	Operator type			Seated	Seated	Seated	Seated	Seated
	Rated capacity	Q	kg	3000	3500	4000	4500	5000
	Load center	c	mm	500	500	500	500	500
	Load distance, center of drive axle to fork	x	mm	500	500	555	555	555
	Wheelbase	y	mm	1725	1725	2000	2000	2000
Weights	Service weight including battery		kg	5000	5600	6750	7030	7350
	Axle load, with load,front/rear		kg	7072/928	8113/987	3331/3419	3315/3715	3322/4028
	Axle load, without load, front/rear		kg	2333/2667	2584/3016	9441/1309	10188/1342	10960/1390
Wheels	Tyres			SE	SE	SE	SE	SE
	Tyre size, front			28x9-15	28x9-15	28x12.5-15	28x12.5-15	28x12.5-15
	Tyre size, rear			200/50-10	200/50-10	21x8-9	21x8-9	21x8-9
	Wheels, number front/rear (x=driveing wheels)			2x/2	2x/2	2x/2	2x/2	2x/2
	Track width, front	b10	mm	1120	1120	1216	1216	1216
	Track width, rear	b11	mm	955	955	1130	1130	1130
Dimensions	Tilt of mast/fork carriage forward/backward		α/β °	5/8	5/8	6/8	6/8	6/8
	Height, mast lowered		h1 mm	2105	2105	2350	2350	2350
	Free lift		h2 mm	130	130	130	130	130
	Lift height		h3 mm	3000	3000	3000	3000	3000
	Height, mast extended		h4 mm	4000	4000	4240	4240	4240
	Height of overhead guard		h6 mm	2215	2215	2360	2360	2360
	Seat height		h7 mm	1140	1140	1260	1260	1260
	Coupling height		h10 mm	333	333	470	470	470
	Overall length		l1 mm	3630	3630	3990	3990	3990
	Length to face of forks		l2 mm	2560	2560	2920	2920	2920
	Overall width		b1 mm	1360	1360	1516	1516	1516
	Fork dimensions		s/e/l mm	50/125/1070	50/125/1070	55/150/1070	55/150/1070	55/150/1070
	Carriage Type(A/B) according ISO 2328			3A	3A	3A	3A	3A
	Fork carriage width		b3 mm	1100	1100	1450	1450	1450
	Ground clearance, with load,below mast		m1 mm	110	110	130/150	130/150	130/150
	Ground clearance, center of wheelbase		m2 mm	130	130	160/160	160/160	160/160
	Aisle width for pallets 1000x1200 crossways		Ast mm	3970	3970	4550	4550	4550
	Aisle width for pallets 800x1200 crossways		Ast mm	4170	4170	4750	4750	4750
	Min. turning radius		Wa mm	2270	2270	2600	2600	2600
	Inner turning radius		b13 mm	560	560	810	810	810
Performance	Travel speed, with/without load		Km/h	15/16	15/16	18/18	18/18	18/18
	Lift speed, with/without load		mm/s	380/450	380/450	350/450	350/450	350/450
	Lowering speed, with/without load		mm/s	550/450	550/450	500/400	460/400	500/400
	Max.drawbar pull, with/without load		KN	14.5/13	14/14	28/18	28/18	28/18
	Max.gradeability, with/without load		%	15/20	15/20	20/20	20/20	20/20
	Acceleration time,with/without load		s			4.5/4	4.5/4	4.5/4
	Service brake			Mech./Hydr.	Mech./Hydr.	Mech./Hydr.	Mech./Hydr.	Mech./Hydr.
Electrics	Drive motor rating S2 60 min.		kW	21.5	21.5	2x15	2x15	2x15
	Lift motor rating at S3 15%		kW	24	24	25.4	25.4	25.4
	Battery voltage, nominal capacity		V/Ah	80/540	80/540	64.8	64.8	64.8
	Battery weight		kg	860	1460	900	900	900
Others	Motor control system			AC	AC	AC	AC	AC
	Operating pressure for attachments		Mpa	16	18	≤17	≤17	≤17
	Sound level at the driver's ear		dB(A)	≤75	≤75	≤75	≤75	≤75
	Towing coupling, type			PIN	PIN	PIN	PIN	PIN

MEDIUM & LIGHT DUTY COUNTER BALANCE FORKLIFT SERIES



ECB16
Load capacity: 1.6 ton
Service weight: 3,100 kg
Min. turning radius: 1,570 mm
Voltage: 80 V
Battery capacity: 270 Ah



ECB18
Load capacity: 1.8 ton
Service weight: 3,300 kg
Min. turning radius: 1,640 mm
Voltage: 80 V
Battery capacity: 270 Ah



ECB16L
Load capacity: 1.6 ton
Service weight: 3,100 kg
Min. turning radius: 1,570 mm
Voltage: 80 V
Battery capacity: 270 Ah



ECB18L
Load capacity: 1.8 ton
Service weight: 3,300 kg
Min. turning radius: 1,640 mm
Voltage: 80 V
Battery capacity: 270 Ah



ECB20
Load capacity: 2.0 ton
Service weight: 3,600 kg
Min. turning radius: 2,020 mm
Voltage: 80 V
Battery capacity: 270Ah/540Ah



ECB25
Load capacity: 2.5 ton
Service weight: 4,200kg
Min. turning radius: 2,020 mm
Voltage: 80 V
Battery capacity: 270Ah/540Ah



ECB30
Load capacity: 3.0 ton
Service weight: 4,840 kg
Min. turning radius: 2,210 mm
Voltage: 80 V
Battery capacity: 270Ah/540Ah



ECB35
Load capacity: 3.5 ton
Service weight: 5,440 kg
Min. turning radius: 2,210 mm
Voltage: 80 V
Battery capacity: 540 Ah



ECB40
Load capacity: 4 ton
Service weight: 6,750 kg
Min. turning radius: 2,600 mm
Voltage: 80 V
Battery capacity: 540Ah/810Ah



ECB45
Load capacity: 4.5 ton
Service weight: 7,030 kg
Min. turning radius: 2,600 mm
Voltage: 80 V
Battery capacity: 540Ah/810Ah



ECB50
Load capacity: 5 ton
Service weight: 7,350 kg
Min. turning radius: 2,600 mm
Voltage: 80 V
Battery capacity: 540Ah/810Ah

Standard configurations

- BYD lithium iron-phosphate battery
- 80V 270Ah/540Ah battery
- 100A quick charger
- GB standard charge interface
- Three-phase AC asynchronous motor
- 1,070mm fork
- 3m duplex STD Mast
- 1,200mm load back-rest
- Multifunction dashboard
- Rear handle with alarm
- LED head light and tail light

Optional configurations

- Finger / twin stick control system
- 200A quick charger
- Integral side shifter
- Grammer MSG65 seat
- Driving cab / roof / front windshield / wiper
- Reversing alarm / reversing voice alarm
- Hermetic wet type disk brake / dual pedal
- Fan / fire extinguisher
- Panoramic rear-view mirror / strobe light
- Rear working light
- Special key

Charging time (Unit: hour)

Charger	Battery	
	80V 270Ah	80V 540Ah
100A Standard	About 2.5	About 5
200A Option	About 1.2	About 2.5