



LIIION 1-3.5 t

G series Lithium Battery Powered
Counterbalanced Forklift Truck (UPGRADED)



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0813 2486 1485

G Series 1-3.5 t



Full LED lights

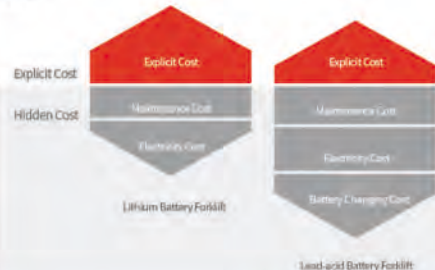


Standard USB interface

Maintenance Free

- Unnecessary off fluid adding and dust proofing
- Daily maintenance free
- Manual maintenance free

The superiority of Minerva lithium battery forklift truck is embodied in the use-cost within product lifecycle. Compared with lead-acid battery forklift truck, lithium battery forklift truck is more convenient for multiple working shifts. It has lower implicit cost and economical total running cost.



Long Service Life

- Over 75% capacity reserved after 4000 shifts operation
- Longer service life than lead-acid battery in equal working condition
- 5 years or ten thousand hours quality guarantee for high performance lithium battery assembly

Suitable for working in both high and low environment

- Lithium battery is better than lead-acid battery when working between -25°C and 55°C



Environment Friendliness

- Zero emission
- Low noise
- Free of heavy metals
- No corrosion
- No acid mist volatilization

High Safety

- According to the characteristics of industrial vehicles, it achieves safety protection design which includes lithium battery materials, battery core type, pack technique and system power management.
- "Multiple node safety closed circuit protection" realizing truck real time closed circuit protection in variable conditions.
- "Lock affirming" function during charging avoiding "hot connecting and disconnecting" operation effectively.
- "Whole system emergency button" to disconnect the truck control system and bms power quickly ensuring truck safety.

High Efficiency and Energy Saving

- 1-2 hours charging meet 6-8 hours working demand.
- High-energy density, self discharging rate lower than 1% per month.
- 95% energy conversion rate, superior charging and discharging performance.
- Flexible to charge, easy to operate, no impact on battery life. Unnecessary to change battery, cost saving.

Minervasmart fleet management system (optional)

- Vehicle positioning
- Remote diagnosis
- Remote monitoring
- Maintenance reminder
- Battery management
- Statistical form
- Vehicle management
- Identification recognition (optional)
- Weight management (optional)
- Collision management (optional)



IPX4 waterproof grade



wide view



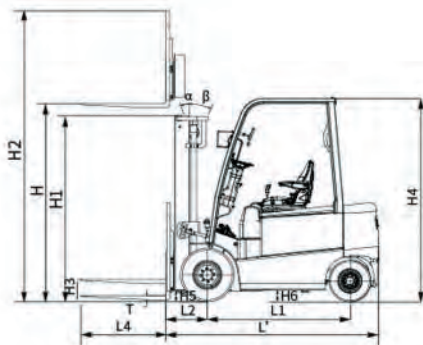
Widened solid tire



G Series 1-3.5 t

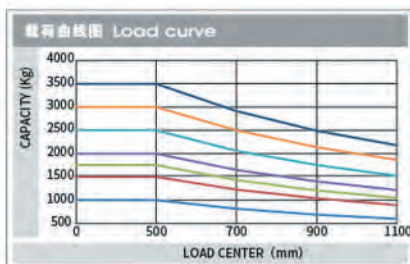
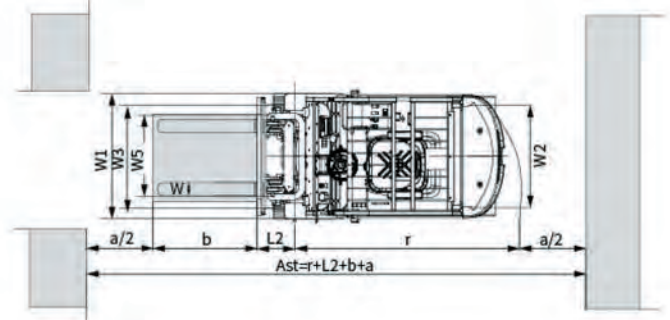
Manufacturer's Data and Design Characteristics

characteristics										
1.01	manufacturer									
1.02	model			MHC10 (NEW)	MHC15 (NEW)	MHC18 (NEW)	MHC20 (NEW)	MHC25 (NEW)	MHC30 (NEW)	MHC35 (NEW)
1.03	configuration number			GB2L1/GB3L1	GB2L1/GB3L1	GB2L1/GB3L1	GB2L1/GB3L1	GB2L1/GB3L1	GB2L1/GB3L1	GB2L1/GB3L1
1.04	rated capacity	Q	kg	1000	1500	1800	2000	2500	3000	3500
1.05	load center distance	c	mm	500	500	500	500	500	500	500
1.06	power mode			lithium battery	lithium battery	lithium battery	lithium battery	lithium battery	lithium battery	lithium battery
1.07	driving mode			seated	seated	seated	seated	seated	seated	seated
1.08	wheel base	L1	mm	1380	1380	1380	1550	1550	1715	1715
2.01	tyre									
2.01	tyre type			pneumatic tyre	pneumatic tyre	pneumatic tyre/solid	pneumatic tyre	pneumatic tyre	pneumatic tyre/solid	pneumatic tyre/solid
2.02	Wheels, number front/rear (X=driven wheels)			2X/2	2X/2	2X/2	2/2	2/2	2/2	2/2
2.03	front wheel base	W3	mm	910	910	910	960	960	1000	1000
2.04	rear wheel base	W2	mm	920	920	920	950	950	990	990
2.05	tyre (front)			6.00-9-10PR	6.00-9-10PR	6.00-9	23X9-10-16PR	23X9-10-16PR	28X9-15-14PR	28X9-15
2.06	tyre (rear)			16X6-8-10PR	16X6-8-10PR	16X6-8-10PR	18X7-8-14PR	18X7-8-14PR	200/50-10	200/50-10
3.01	size									
3.01	front overhang	L2	mm	390	390	390	425	425	485	490
3.02	mast tilt angle, front/rear	α/β	°	6/8	6/8	6/8	6/8	6/8	6/10	6/10
3.03	height with mast retraction	H1	mm	1985	1985	1985	1995	1995	2075	2180
3.04	free lifting height	H3	mm	145	145	145	145	145	145	150
3.05	Max. lifting height	H	mm	3000	3000	3000	3000	3000	3000	3000
3.06	Mast height, extended	H2	mm	4030	4030	4030	4042	4042	4230	4230
3.07	overhead guard height	H4	mm	2130	2130	2130	2150	2150	2215	2215
3.08	fork size: thickness X width X length	TXWXL4	mm	32X100X770	35X100X920	35X100X920	40X122X920	40X122X1070	45X125X1070	50X125X1070
3.09	fork carriage ISO 2326 class/type A/B	2A		2A	2A	2A	2A	2A	3A	3A
3.10	truck body length (fork excluded)	L'	mm	2070	2070	2070	2270	2280	2525	2550
3.11	truck body width	W1	mm	1086	1086	1086	1185	1185	1245	1245
3.12	turning radius	r	mm	1750	1750	1750	2000	2010	2240	2260
3.13	clearance between mast and ground	H5	mm	90	90	80	110	110	135	135
3.14	clearance between wheel base center and ground (loaded)	H6	mm	80	80	75	115	115	145	145
3.15	right angle stacking aisle width	Ast	mm	3340	3340	3340	3625	3625	3995	4020
3.16	left angle stacking aisle width	Alt	mm	3540	3540	3540	3825	3825	4125	4150
3.17	lateral fork adjustment (outside of fork) Max./Min. performance	W5	mm	960/200	960/200	960/200	1030/244	1030/244	1060/250	1060/250
4.01	travelling speed: loaded/unloaded		km/h	15.0/16.0	15.0/16.0	15.0/16.0	16/16	16/16	17/18	15/15.5
4.02	lifting speed: loaded/unloaded		mm/s	410/600	400/600	380/600	350/510	330/510	340/460	265/440
4.03	lowering speed: loaded/unloaded		mm/s	400/500	400/500	400/500	450/500	450/500	-500	-500
4.04	gradeability (loaded)	%		24	22	20	22	20	18	17
4.05	Max. traction force (loaded)	N		11000	12500	16000	16500	16500	21700	19500
4.06	acceleration time (10m) loaded/unloaded	s		5.0/4.4	5.2/4.5	5.2/4.6	4.6/4.4	4.6/4.4	4.7/4.5	5.0/4.7
5.01	total weight (with/without battery)		kg	2700/2350	2955/2605	3105/2755	3500/3340	3710/3650	4450/4100	5060/4710
5.02	axle load: unloaded, front/rear		kg	1420/1280	1370/1585	1375/1730	1485/2115	1680/2230	2050/2400	2240/2620
5.03	axle load: loaded, front/rear		kg	3130/570	3870/585	4235/600	4678/922	5670/1740	6770/680	7760/800
6.01	battery voltage/capacity (discharging capacity in 5 hours)	V/Ah		80/202	80/202	80/202	80/271	80/271	80/404	80/404
6.02	battery weight	kg		230	230	230	260	260	350	350
7.01	driving motor power (S2-60min)	kW		8.2	8.2	8.2	12	12	16.6	16.6
7.02	lifting motor power (S3-15%)	kW		10.6	10.6	10.6	15	15	13.5	13.5
7.03	drive motor controlling mode			MOSFET/AC	MOSFET/AC	MOSFET/AC	MOSFET/AC	MOSFET/AC	MOSFET/AC	MOSFET/AC
7.04	lifting motor controlling mode			MOSFET/AC	MOSFET/AC	MOSFET/AC	MOSFET/AC	MOSFET/AC	MOSFET/AC	MOSFET/AC
8.01	service brake/parking brake			hydraulic/mechanical	hydraulic/mechanical	hydraulic/mechanical	hydraulic/mechanical	hydraulic/mechanical	hydraulic/mechanical	hydraulic/mechanical
8.02	hydraulic system working pressure	MPa		14.5	14.5	17.5	17.5	17.5	21	21
8.03	type of drive control			ZAP/INNOVATION	ZAP/INNOVATION	ZAP/INNOVATION	ZAP/INNOVATION	ZAP/INNOVATION	Santrol	ZAP/INNOVATION



Ast: Right angle stacking aisle width

a: Clearance
b: Load Length



MHC10 MHC15
MHC18 MHC20
MHC25 MHC30
MHC35

Note: The vertical axis stands for load capacity and the horizontal axis stands for load center which is calculated from the front surface of the forks to the gravity of the standard load. the standard load means a cubic with 1000mm edge length. When mast is tilted forward, using non-standard forks or loading large goods, the load capacity will be reduced. The load capacity of standard mast at different load center can be known from this load chart.

LITHIUM BATTERY, CHARGER									
Model	Lithium battery brand	ENEROC				CNSG Hong SIFANG			
	Capacity Voltage	202Ah	271Ah	404Ah	542Ah	320Ah	400Ah	500Ah	600Ah
MHC10/MHC15 /MHC18	80V	●	○	—	—	—	—	—	—
MHC20/MHC25		—	●	○	—	○	○	○	—
MHC30/MHC35		—	—	●	○	—	○	○	○
Low temperature preheating of lithium battery PACK		●				—			
Charger		D80V-200A-Li D80V-200A-Li-423				Charging gun) Charging gun)			

● standard, ○ optional, — non-configurable

WIDE VIEW MAST																					
mast model	Max. lifting height mm	(kg) load capacity (load center 500mm)							(mm) mast overall height (fork to the ground)				(α/β) (°) mast tilt angle		(kg) weight						
		1t	1.5t	1.8t	2t	3t	2.5t	3.5t	1-1.8t	2-2.5t	3t	3.5t	1-2.5t	3-3.5t	1t	1.5t	1.8t	2t	2.5t	3t	3.5t
M200	2000	1000	1500	1800	2000	3000	2500	3500	1485	1495	1570	1680	6/8	6/10	2670	2925	3075	3510	3820	4355	4960
M250	2500	1000	1500	1800	2000	3000	2500	3500	1735	1745	1820	1930	6/8	6/10	2685	2940	3090	3555	3865	4395	5010
M300	3000	1000	1500	1800	2000	3000	2500	3500	1985	1995	2070	2180	6/8	6/10	2700	2955	3105	3600	3910	4450	5060
M330	3300	1000	1500	1800	2000	3000	2500	3500	2135	2145	2220	2330	6/8	6/10	2720	2975	3125	3630	3940	4480	5090
M350	3500	1000	1500	1800	2000	3000	2500	3500	2235	2245	2320	2430	6/8	6/10	2735	2990	3140	3645	3955	4500	5110
M370	3700	1000	1500	1800	2000	3000	2500	3400	2335	2345	2420	2530	6/8	6/6 *6/10	2745	3000	3150	3665	3975	4530	5130
M400	4000	1000	1500	1800	2000	2950	2500	3350	2535	2545	2620	2730	6/5	6/6 *6/10	2795	3050	3200	3725	4035	4595	5205
M425	4250	1000	1500	1800	2000	2850	2500	3250	2660	2670	2745	2855	6/5	6/6 *6/10	2810	3065	3215	3745	4055	4620	5230
M450	4500	1000	1400	1600	1900	2750	2300	3100	2785	2795	2870	2980	6/5	6/6 *6/10	2830	3085	3235	3770	4080	4645	5255
M500	5000	1000	1200	1350	1800	2400	1950	2650	3035	3045	3120	3230	6/5 *6/5	6/6 *6/6	2860	3115	3265	3815	4125	4695	5305
M550	5500	900	1100	1200	1400	2250	1550	2500	3335	3345	3420	3530	3/3 *6/5	3/6 *3/6	2920	3175	3325	3895	4205	4775	5395
M600	6000	800	800	850	950	1400	1100	2400	3585	3595	3670	3780	3/3 *6/5	3/6 *3/6	2955	3210	3360	3940	4250	4825	5440

Note: (1) * refers to rated capacity with dual front tires or wide tires;

WIDE VIEW FULL FREE 2-STAGE MAST																									
mast model	Max. lifting height (mm)	(kg) load capacity (load center 500mm)							(mm) mast overall height				(mm) free lifting height (with backrest)				(α/β) (α/β) (°)		(kg) weight						
		1t	1.5t	1.8t	2t	2.5t	3t	3.5t	1-1.8t	2-2.5t	3t	3.5t	1-1.8t	2-2.5t	3t	3.5t	1-2.5t	3-3.5t	1t	1.5t	1.8t	2t	2.5t	3t	3.5t
ZM200	2000	1000	1500	1800	2000	2500	3000	3500	1485	1495	1570	1680	478	447	380	500	6/8	6/10	2680	2935	3085	3520	3830	4396	5026
ZM250	2500	1000	1500	1800	2000	2500	3000	3500	1735	1745	1820	1930	728	697	630	750	6/8	6/10	2715	2970	3120	3570	3880	4440	5070
ZM300	3000	1000	1500	1800	2000	2500	3000	3500	1985	1995	2070	2180	978	947	880	1000	6/8	6/10	2750	3005	3155	3615	3925	4486	5115
ZM330	3300	1000	1500	1800	2000	2500	3000	3500	2135	2145	2220	2330	1128	1097	1030	1150	6/8	6/10	2770	3025	3175	3645	3955	4513	5142
ZM350	3500	1000	1500	1800	2000	2500	3000	3500	2235	2245	2320	2430	1228	1197	1130	1250	6/8	6/10	2785	3040	3190	3665	3975	4531	5160
ZM370	3700	1000	1500	1800	2000	2500	3000	3400	2335	2345	2420	2530	1328	1297	1230	1350	6/8	6/6 *6/10	2795	3050	3200	3685	3995	4549	5178
ZM400	4000	1000	1500	1800	2000	2500	2950	3350	2535	2545	2620	2730	1528	1497	1430	1550	6/5	6/6 *6/10	2845	3100	3250	3745	4055	4621	5252
ZM425	4250	1000	1500	1800	2000	2500	2850	3250	2660	2670	2745	2855	1622	1555	1675	1675	6/5	6/6 *6/10	2865	3120	3270	3770	4080	4643	5274
ZM450	4500	1000	1400	1600	1900	2300	2750	3100	2785	2795	2870	2980	1778	1747	1675	1800	6/5	6/6 *6/10	2885	3140	3290	3795	4105	4666	5297
ZM500	5000	1000	1200	1350	1800	1950	2400	2650	3035	3045	3120	3230	2028	1997	1930	2050	6/5 *6/5	6/6 *6/6	2915	3170	3320	3845	4155	4711	5342
ZM550	5500	900	1100	1200	1400	1550	2250	2500	3335	3345	3420	3530	2328	2297	2230	2350	3/3 *6/5	3/6 *3/6	2980	3235	3385	3925	4235	4801	5434
ZM600	6000	800	800	850	950	1100	1500	1550	3585	3595	3670	3780	2578	2547	2480	2600	3/3 *6/5	3/6 *3/6	3010	3265	3415	3975	4285	4848	5480

Note: (1) * refers to rated capacity with dual front tires or wide tires;

(2) 1-1.8t: free lifting height 365mm increase without backrest;

(3) 2-2.5t: free lifting height 397mm increase without backrest;

(4) 2-2.5t: free lifting height 396mm increase without backrest;

WIDE VIEW FULL FREE 3-STAGE MAST																								
mast model	Max. lifting height mm	(kg) load capacity (load center 500mm)							(mm) mast overall height			(mm) free lifting height (with backrest)				(α/β) (°) mast tilt angle		(kg) weight						
		1t	1.5t	1.8t	2t	2.5t	3t	3.5t	1-1.8t	2-2.5t	3-3.5t	1-1.8t	2-2.5t	3t	3.5t	1-2.5t	3-3.5t	1t	1.5t	1.8t	2t	2.5t	3t	3.5t
ZSM360	3600	1000	1500	1800	2000	2500	3000	3400	1780	1975	1930	770	774	740	745	6/8	6/6	2795	3050	3145	3760	4070	4705	5285
ZSM400	4000	1000	1500	1800	2000	2500	2900	3250	1915	1920	2055	905	900	865	870	6/5	6/6	2820	3075	3170	3795	4105	4740	5320
ZSM435	4350	1000	1450	1650	2000	2450	2750	3150	2030	2045	2180	1020	1024	990	995	6/5	6/6	2845	3100	3195	3830	4140	4775	5355
ZSM450	4500	1000	1400	1600	2000	2300	2700	3000	2080	2095	2230	1070	1074	1040	1045	6/5	6/6	2855	3110	3205	3845	4155	4791	5371
ZSM470	4700	1000	1350	1550	2000	2200	2700	2900	2150	2160	2230	1140	1140	1140	1048	6/5	6/6	2870	3125	3220	3860	4170	4795	5375
ZSM480	4800	1000	1300	1500	1900	2050	2600	2800	2180	2195	2330	1170	1174	1140	1145	6/5	6/6	2880	3135	3230	3870	4180	4820	5400
ZSM500	5000	1000	1200	1300	1800	1950	2400	2650	2280	2295	2430	1270	1274	1240	1245	6/5 *6/5	6/6 *6/6	2900	3155	3250	3900	4210	4849	5429
ZSM540	5400	1000	1000	1050	1400	1550	2250	2500	2405	2420	2555	1395	1400	1365	1370	3/3 *6/5	3/6 *3/6	2925	3180	3275	3940	4250	4884	5464
ZSM600	6000	700	750	800	950	1100	1500	1550	2630	2645	2780	1620	1624	1590	1595	3/3 *6/5	3/6 *3/6	2995	3250	3345	4005	4315	4983	5563
ZSM650	6500	500	550	600	700	800	1200	1250	2830	2835	2970	1820	1814	1788	1793	3/3 *3/5	3/3 *3/3	3035	3290	3385	4035	4345	5036	5616
ZSM700	7000	900	950	950	1100	1200	1500	1600	3015	3105	3240	2005	2084	2058	2063	3/3 *3/5	3/3 *3/3	3075	3330	3425	4090	4400	5120	5700

Note: (1) * refers to rated capacity with dual front tires or wide tires;

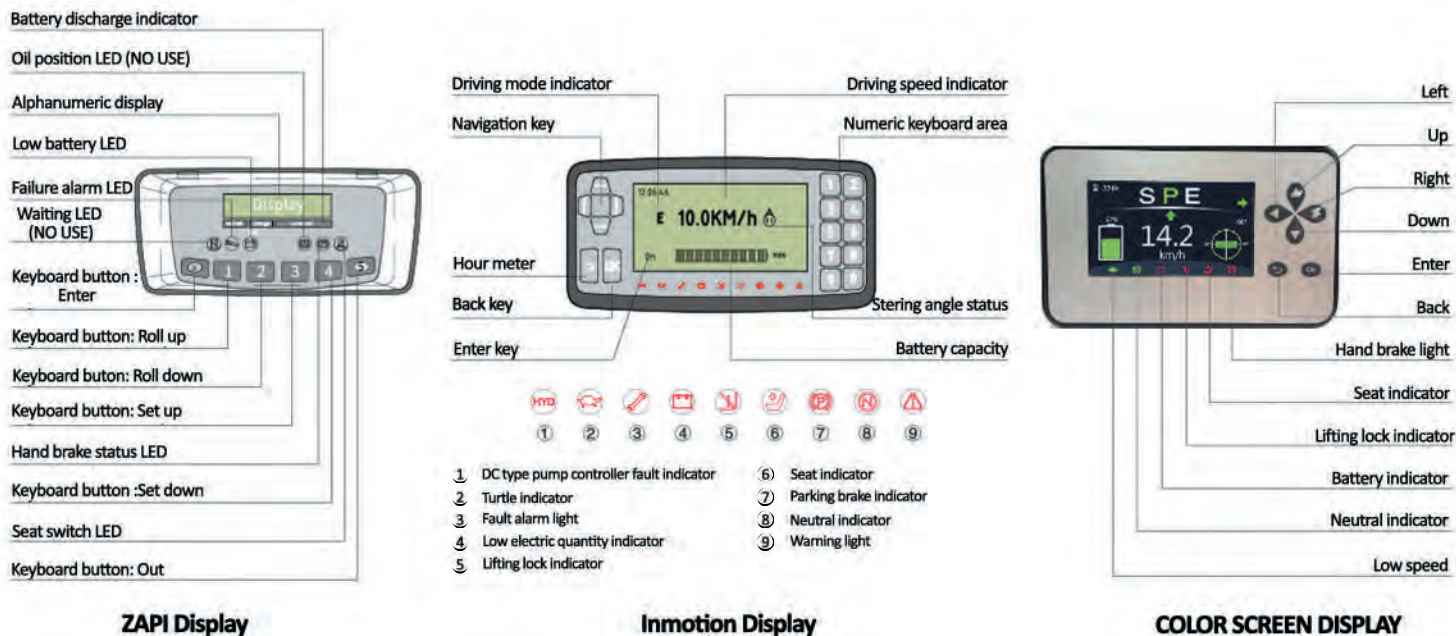
(2) 1-1.8t: free lifting height 480mm increase without backrest;

(3) 1-1.8t: free lifting height 400mm increase without backrest when assembled with pulley block;

(4) 2-2.5t: free lifting height 451mm increase without backrest;

(5) 3-3.5t: free lifting height 397mm increase without backrest;

Reliable special designed instrument



Charger technology



- **High Efficiency**
Charging efficiency higher than 95% meeting the requirement of energy saving and emissions reduction
- **Speediness**
100% charging realized in 65mins at the soonest
- **Compatibility**
48 v / 80 v compatibility meeting the demand of different voltage levels
- **Safety**
Built-in mis-connecting protection offering self isolating function under fault;
Perfect fault self checking alarm facilitating users maintenance

Standard configuration

Wide view basic mast
Standard fork
li(iii)stage fork carriage
Backrest
Control valve
Battery
Standard seat
Overhead guard
Overhead guard rain cover
LCD dashbord
Pneumatic tyre (1-3t)
Solid tyre (3.5t)
Traction pin
Tool box
LED lamp, strobe caution light
Rear driving handle with horn button

Optional device

Carpet boom
Driver's cab
Lifting hook
Lifting boom
Tip-over fork
Back view mirror
Side shifting
Paper roll clamp
Warning light (rotating or buzzing)
Solid tyre (1-3t)
Rear working light
Steel protection net
Multipurpose drum clamp
Load stabilizer
Widen fork carriage
Lengthening fork

Load pusher
Fork sleeve
Rotate clamp
Double tyre protection device
Auxiliary hydraulic valve component
Tilting/steering cylinder cover
Coloring tyre (white/green)
Wide view two/three stage full free mast
Customised colour
Turn automatic deceleration function
Battery lifting sling
Minerva smart fleet management system

MINERVA ELECTRON FORKLIFT

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