



ROYAL FORKLIFT (SUZHOU) CO.,LTD.

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R SERIES 4-WHEEL ELECTRIC FORKLIFT

CAPACITY 1.5T-5T



www.ryforklift.com



CONCEPT

Independently developed by Royal on the basis of decades of deep understanding of electric forklifts, the dedicated R series electric forklifts are a new series of electric counterweight forklifts.

We studied all the specifications of the best forklifts in the world, determining the characteristics that makes a forklift work well in an industrial environment. After that, we combined such information and prepared the basics of the design of our product.



INTRODUCTION

R series 4-5t new energy electric forklifts , the whole series covers dedicated lithium battery models dedicatedly developed according to the characteristics of lithium batteries.

6 reasons choose High Performance Electric Forklift Truck

- ▶ RELIABILITY
- ▶ PRODUCTIVITY
- ▶ ENVIRONMENTAL FRIENDLINESS
- ▶ COMFORTABLE OPERATION
- ▶ EASY MAINTENANCE
- ▶ HIGH PERFORMANCE



LITHIUM POWERED



NEW GENERATION LI-ION BATTERY POWER NOW

Advantage of Royal new lithium electric forklift

► Environment Friendliness

- Zero emission
- Low noise
- No heavy metal
- No corrosion
- No acid mist volatilization

► Maintenance Free

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

► High Safety

- "Multiple node safety dosed 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 ensure truck safety.

► Long Service Life

- Over 75% capacity reserved after 4000 shifts operation
- Longer service life than lead-acid battery in equal working condition
- 5 years quality guarantee

► High Efficiency and Energy Saving

- 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 & operation safety.

► Superior Performance In Low Temperature

- Discharging efficiency up to 88% in-20°C
- Discharging efficiency up to 70% in-40°C
- Long battery life in cold store



CUSTOMER CAN ORDER R SERIES 1.5-5T LITHIUM BATTERY POWER FROM ROYAL NOW.
COMPACT DESIGN,FLEXIBLE HIGH LEVEL OF ENERGY EFFICIENCY,
MAINTENANCE-FREE,PROVIDE LONG SERVICE LIFE.



NEW GENERATION

LI-ION BATTERY POWER NOW

Multi-Scenario Usage and Fast Charging ensures continuous availability of the material handling equipment.

Lightweight design, highly efficient, maintenance-free, and long service life are all benefits of the R series.

The newly designed chassis has a low center of gravity allowing the operator to feel stable while turning the forklift.



High capacity LI-ION battery packs

Integrated Battery Management System (BMS) continually monitors energy management and ensures reliable operation. ROYAL provides Li-Ion battery with 5 years or 10000 hours warranty.

		Battery Capacity
Pack 1	1.5-1.6t: standard	48V*300Ah
Pack 2	2.0-2.5t: standard	48V*405Ah
Pack 3	3.0-3.5t: standard	83.2V*525Ah
Pack 4	4.0-5.0t: standard	83.2V*600Ah

Excellent Ergonomic Design

- / The truck has a large operating space more than **50%** larger than the traditional electric forklift.
- / The dashboard in the driver's cab is placed overhead and can be seen when the driver lifts her/his head and the function buttons can be pressed easily.
- / For the optional integrated fingertip control system the combined operating armrest integrates the emergency cut-off, horn and quadruple thumb switches, etc, are electrically controlled through the CAN bus and are highly reliable.
- / The enlarged brake pedal and appropriate regenerative braking function can effectively reduce the driver's fatigue.



Advantages



The high-frequency MOSFET integrated controller ensures smooth and accurate driving and lifting control and has excellent speed regulation performance good performance of electronic control matching the motor, functions of regenerative braking reverse braking and anti-sliding on amps, etc, and high safety and reliability.

The rear axle is provided with a flexible suspension system (for standard configuration and automatic deceleration at turns improve the driver's comfort).

The ultra-high power AC traction motor has a bridge structure. An ultra-high power AC pump motor is used. The system has high efficiency and complete protection functions built-in speed and temperature sensors and greatly improved reliability and using life.

PRODUCTIVITY



Dual Driven Motors

Pivot turning by the dual AC motors makes for easier operations in narrow aisles.



Finger Tips **OPT**

The Finger tips allows smooth operation. The design featuring an armrest also helps to reduce the operator's fatigue.



The Multifunction Display offers useful information for operators and managers.



High Performance

Newly developed high performance 4-wheel electric forklift greatly reduces energy consumption. This increases the working efficiency by 20%.

The battery open structural design combined with the location of different systems of forklifts, Royal forklift engineers designed this forklift with the idea to assemble & disassemble in different ways. This design dramatically improves serviceability and lowers the service labor cost.



The seat can be adjusted forward and backward and supports a comfortable operating posture by means of side wings and a seat belt.



Energy savings, long-life LED lights offer long life and low energy consumption.



The small turning radius achieved through the compact body and the configuration makes possible a effective use of working space.



Easy opened counter balance cover, to protect controller to avoid the damage when reversing it makes the electrical system arrangement optimized.

Model				E15D	E20D	E30D	E35D	E40D	E45D	E50D	E15Q	E20Q	E25Q	E30Q	E35Q
Dimensions	Load capacity/rated load	Load capacity/rated load	kg	1500	2000	3000	3500	4000	4500	5000	1500	2000	2500	3000	3500
	Load centre distance	Load centre distance	mm	500	500	500	500	500	500	500	500	500	500	500	500
	Standard Duplex Mast	Lift height	mm	3000	3000	3000	3000	3000	3000	3000	3000	3000	3000	3000	3000
	Standard Duplex Mast	Free height	mm	140	140	145	145	150	150	150	120	125	125	140	140
	Fork	Fork dimensions	mm	40X100X1070	40X100X1070	45X125X1070	45X125X1070	50X150X1070	50X150X1070	50X150X1070	40X120X1070	40X120X1070	40X120X1070	45X125X1070	45X125X1070
	Mast/fork carriage tilt	forward/backward	deg	7/7	7/7	7/7	7/7	6/6	6/6	6/6	6/9	6/9	6/9	6/9	6/9
	outside dimensions	Length to face of forks	mm	2090	2095	2595	2595	2975	2975	2975	2174	2265	2265	2485	2485
	outside dimensions	Overall width	mm	1080	1140	1274	1274	1496	1496	1496	1080	1170	1170	1240	1240
	outside dimensions	lowered mast height	mm	2010	2010	2120	2120	2300	2300	2300	1990	1990	1990	2010	2010
	outside dimensions	Extended mast height	mm	4080	4080	4080	4080	4110	4110	4110	4060	4060	4060	4080	4080
	outside dimensions	Overhead load guardheight	mm	2040	2040	2140	2140	2300	2300	2300	2027	2085	2085	2120	2120
	Min right angle aisle width	Min right angle aisle width	mm	2170	2170	2340	2340	2650	2650	2650	2065	2065	2065	2340	2340
	Min stacking right angle aisle width	Min stacking right angle aisle width	mm	3725	3725	4280	4280	4750	4750	4750	3330	3530	3530	4280	4280
	Turning radius	Min Outside	mm	1970	1970	2280	2280	2650	2650	2650	1900	2065	2065	2230	2230
Performance Data	Speed	Travel speed(unladen)	km/h	18/18	18/18	19/17.5	19/17.5	18/16	18/16	18/16	15	15	15	16/14	16/14
	Speed	Lift （unladen）	mm/s	600	550	550	550	500	500	500	420	420	420	420	420
	Speed	Lift （laden）	mm/s	500	400	450	450	400	400	400	350	350	350	340	230
	Speed	Lowering speed （unladen）	mm/s	500	500	500	500	450	450	450	500	500	500	500	500
	Speed	Lowering speed （laden）	mm/s	500	500	500	500	450	450	450	500	500	500	500	500
	Drawbar pull	Laden	N	12500	12100	17760	17650	25940	25830	25720	10600	12900	12300	17600	16800
	Drawbar pull	Unladen	N	12300	12000	16800	16500	24540	24250	23950	11060	12390	12000	16900	16350
	Max.Gradient performance	Laden	%	25	22	20	20	20	20	20	15	20	15	20	15
load distribution	Total weight	Unladen	kg	3210	3520	5000	5150	7520	7750	8000	3380	3920	4080	4940	5100
	Full load	Front	kg	4220	4820	7025	7950	10050	10660	11170	4246	5140	5890	6910	4510
	Full load	Rear	kg	610	700	1125	860	1500	1600	1670	634	780	690	1030	640
	No load	Front	kg	1570	1590	2300	2330	3440	3540	3640	1453	1840	1840	2260	1630
	No load	Rear	kg	1640	1930	2700	2820	4120	4240	4360	1927	2080	2240	2680	1750
Chassis	Wheels	Tyres size,front		18X7-8	200/50-10	23X9-10	23X9-10	27X10-12	27X10-12	27X10-12	6.00-9	21X8-9	21X8-9	23X9-10	23X9-10
	Wheels	Tyres size,rear		16X6-8	16X6-8	18X7-8	18X7-8	21X8-9	21X8-9	21X8-9	16x6-8	16X6-8	16X6-8	18X7-8	18X7-8
	wheelbase	Distance	mm	1500	1500	1800	1800	2000	2000	2000	1400	1500	1500	1700	1700
	Track width	Front	mm	910	920	1040	1040	1190	1190	1190	930	975	975	1040	1040
	Track width	Rear	mm	915	915	1003	1003	1050	1050	1050	915	915	915	980	980
	Load distance,centre of rear axle to fork	Load distance,centre of rear axle to fork	mm	250	250	350	350	409	409	409	340	300	300	350	350
	Load distance,centre of drive axle to fork	Load distance,centre of drive axle to fork	mm	340	340	494.5	495.5	565	565	565	434	465	465	465	465
	Ground clearance	centre of wheelbase	mm	100	100	130	130	140	140	140	115	115	115	120	120
	Ground clearance	under mast	mm	80	80	140	140	170	170	170	100	100	100	120	120
Power system	Battery	Option Type		Li-ion	Li-ion	Li-ion	Li-ion	Li-ion	Li-ion	Li-ion	Li-ion	Li-ion	Li-ion	Li-ion	Li-ion
	Battery	Voltage/Nominal capacity	V/Ah	48/300	48/405	83.2/525	83.2/525	83.2/600	83.2/600	83.2/600	48/300	48/405	48/405	83.2/405	83.2/405
	Battery	Type		Lead-acid	Lead-acid	Lead-acid	Lead-acid	Lead-acid	Lead-acid	Lead-acid	Lead-acid	Lead-acid	Lead-acid	Lead-acid	Lead-acid
	Battery	Voltage/Nominal capacity	V/Ah	48/450	48/540	80/540	80/540	80/720	80/720	80/720	48/450	48/540	48/540	80/540	80/540
	Drive Motor	rating S2 60 min	kw/rpm	4.8X2	4.8X2	7.5x2	7.5x2	12x2	12x2	12x2	8	11	11	15	15
	Lift Motor	rating at S3 15%	kw/rpm	11	11	23.5	23.5	25.5	25.5	25.5	11	11	11	13.5	13.5