

Special complete drying production line for Lithium iron phosphate

Project Overview:

In recent years, the output of lithium batteries in China has increased dramatically. By the end of 2009, the cumulative production of lithium-ion batteries had reached 1.875 billion. Lithium battery cathode materials have also evolved from single lithium cobalt oxide materials to lithium cobalt oxide, lithium manganate, lithium nickel cobalt oxide, lithium nickel cobalt manganese oxide, lithium iron phosphate and other materials go hand in hand. Driven by the growth of the lithium battery market, the overall market for lithium battery materials is on the rise. The progress made in lithium battery cathode materials research indicates that the lithium battery has a promising market.

Lithium iron phosphate is a new and new material for the lithium-electricity revolution industry, and it is the most cutting edge of the development of the lithium battery industry. Lithium iron phosphate batteries are widely used in various fields such as hybrid vehicles, electric tools, electric white vehicles, electric bicycles, and energy storage devices due to their advantages. Hybrid vehicles (HEVs) are the main development direction for new energy vehicles in the coming years. With the continuous increase in the output of hybrid vehicles and the increase in the share of hybrid vehicles, the lithium iron phosphate battery market will grow rapidly.

Working principle: PSD series battery material high-speed centrifugal spray dryer is used for the drying process of lithium iron phosphate cathode material for water-soluble liquid materials. It adopts high-speed centrifugal spray atomization technology, and achieves micro spherical particles with uniform particle size, compact structure and good fluidity while achieving continuous drying productions.

To a large extent, high-speed centrifugal atomization technology can effectively improve or increase the bulk density of lithium iron phosphate as a positive electrode material, making its monomer particles reach 3 to 5 μm and the finished product to have a moisture content of 0.5%. The use of magnetic filtration technology effectively avoids the doping of iron ions in the production process, achieves the purpose of pure material, and maintains the electrical conductivity of the positive electrode material.

The recycling of waste heat gas can also achieve the goal of energy saving and emission reduction, and comply with the transformation of energy-saving and emission reduction and low-carbon production methods promoted by the government. In order to maintain production safety, this plant adopts pulse dust-removal cooling protection technology, under the intelligent control operation, to achieve cooling protection safety interlock. The comprehensive application of innovative technologies provides basic equipment and technical support for the industrial production of new energy lithium ion battery cathode materials in China. It is an ideal drying equipment for new material.



Project3 sets of PSD-60 Large Precision Spray Dryer for Battery Materials in Hunan Province



Lithium iron phosphate--a new type of cathode material for lithium ion battery

Lithium-ion battery performance mainly depends on the anode material and cathode material, lithium iron phosphate as a new lithium-ion battery anode material, its safety

performance and cycle life has obvious advantages over other anode materials, these are also the most important technical indicators of the power battery. Lithium iron phosphate has the advantages of being non-toxic, harmless, safe, and long life, and has become one of the ideal anode materials for new generation lithium ion batteries.

The main application areas of lithium iron phosphate:

(1) Energy storage equipment: energy storage equipment based on solar energy, wind energy, geothermal energy, and ocean energy power generation systems; power grid peak shaving; uninterrupted power system UPS; use of solar cells as energy storage devices; home lighting, etc.

(2) Power tools High power power tools (wireless); hammers, drills, weed cutters, etc.

(3) Light electric vehicles Electric vehicles, electric bicycles, RVs, golf carts, electric pushers, cleaners, hybrid vehicles (HEVs), targets for the next 2-3 years, and power supplies such as forklifts and forklifts.

(4) Small Medical Equipment: Electric Wheelchairs, Electric Scooters, Toys (Remote Control Electric Vehicles, Vehicles, Boats).

(5) other small appliances, miner's lamp.

(6) Start-up power: starting power for automobiles, motorcycles, tractors, diesel engines, railway diesel locomotives, electric locomotives, passenger cars;

(7) Fixed-type power supply: It is used as a standby power source for protection and automatic control of communications, mobile base stations, telecommunications, railway transportation, electric power, finance, power plants, and computer systems.

(8) Military areas: military on-site electronic command system, sea (submarine. underwater vehicle), land (Army system. machine warrior), sky (unmanned aircraft), air (satellite. spacecraft) arms.



