Application effect and prospect analysis of the whole hot air roasting technology for coffee

Coffee raw beans have no fragrance, and roasting is a necessary stage for the generation of coffee bean flavor. There are 700~850 flavor substances in coffee that must be roasting to show their aromatic characteristics.

Coffee roasting refers to the roasting of raw coffee beans at a certain temperature.Microwave heating machineryThe process of removing excess water from coffee beans and converting some of the ingredients into caramelized sugars and flavoring oils.

At present, domestic research on coffee roasting mainly focuses onCommercial coffee roasters Study on chemical composition change and roasting curve in roasting process.

Studies have shown that small seed in yunnan coffee beans in the condition of 230 ?, bake for 5,10,15, 20, 25 min, the caffeine content is around 1.45% on average, slightly lower after 15 min, but there was no significant difference;

Coffee flavor is divided into two parts: volatile flavor component and flavor component. Volatile substances determine the aroma of coffee, while non-volatile substances determine the sour, bitter and astringent taste of coffee. It is found that the change of aroma composition of coffee can be used to guide the roasting process of coffee.

By cluster analysis of volatile component can make judgment on the degree of roasting coffee, in recent years, with the domestic coffee industry, to the attention of the industry chain after a period of deep processing of domestic demand for coffee roasting equipment will be more and more big, the performance requirements also will be more and more high, with low energy consumption, easy operation, a smoke-free environment for all hot air roasting machine will be popular in the market.

In addition, its high yield and good effect of baked beans will also make it popular in the field of instant processing. Loss of quality is higher, but in the whole hot air roasting process, coffee beans are floating in convective hot air, broken beans are not easy to excessive roasting and rupture;

In terms of appearance and internal and external consistency, the performance of full hot air roasting is also all better than that of semi-hot air roasting, especially when roasting crushed beans and ungraded beans of different sizes, the difference between them is more significant.

Reason mainly is full of hot air when baked beans suspension with hot air, all of the coffee bean heat relatively more uniform, and half direct fire baking except by hot air, also depend on the temperature of the furnace wall heat transfer, especially the roasted beans and unrated coffee beans, the smaller particle size of coffee beans and bean is easier to close to the wall, cause excessive baking, which affect the appearance of consistency;

In terms of black spots on baked beans, it is also the case that the baking with full hot air is much better than that with semi-hot air, for the same reason as the appearance and internal consistency.

In terms of comprehensive cup test, the commercial raw coffee beans and high-quality raw coffee beans after better classification are similar to each other in comprehensive cup test, especially the high-quality raw coffee beans, which are more obvious in mellow degree and sweet return when baked by semi-hot air.

Full hot air baking is more outstanding in dry aroma and sour taste. However, in the baking of crushed beans and ungraded beans of different sizes, the consistency of all hot air roasting is better and there are few coking beans, so the comprehensive cup test is much higher than that of semi-direct roasting.