

Oilseeds Processing Line Machine



Rapeseed oil, also known as coriander oil, is a transparent or translucent liquid obtained from the seeds of *Brassica oleracea* (rapeseed). Usually dark yellow or brown. Rapeseed oil contains 0.4-1.0% arachidic acid, 14-19% oleic acid, 12-24% linoleic acid, 31-55% erucic acid and 1-10% linolenic acid. In terms of nutritional value, the digestibility and absorptivity of rapeseed oil can reach 99%, and it has gallbladder-promoting function. Rapeseed ketone can also be metabolized normally by human body when the liver is in pathological state. However, rapeseed oil lacks essential fatty acids such as linoleic acid, and its fatty acid composition is unbalanced, so its nutritional value is lower than that of vegetable oil. There is a certain stimulating odor, folk called "green odor". This gas is caused by a certain amount of mustard glycoside, but rapeseed of superior varieties does not contain this substance. Rapeseed oil contains a large number of erucic acid (Erucic acid formula is as follows: $\text{CH}_3(\text{CH}_2)_7\text{CH}=\text{CH}(\text{CH}_2)_{11}-\text{COOH}$) and sinapoxide, which are generally considered to be unfavorable to human growth and development. If it can be eaten with good edible oil rich in linoleic acid, its nutritional value will be improved.



The human body absorbs rapeseed oil very high, up to 99%. Therefore, it contains unsaturated fatty acids such as linoleic acid, vitamin E and other nutrients can be well absorbed by the body, has a certain effect of softening blood vessels and delaying aging. As the raw material for oil extraction is plant seed, it usually contains certain seed phospholipids, which is very important for the development of blood vessels, nerves and brain. Rapeseed oil contains little or almost no cholesterol, so people who control their cholesterol intake can eat it safely. Rapeseed oil is a kind of oil with high erucic acid content. Whether it can cause myocardial fat deposition and damage the heart is still controversial. Therefore, patients with coronary heart disease and hypertension should pay attention to eating less.

Oil Pretreatment and Pressing Technology Pretreatment Workshop:

Pretreatment The purpose is to improve the shape of the oil, so as to make oil quickly and effectively through press or leaching. The main purposes are as follows:.

Give oil seeds or nuts certain plasticity. Coagulated protein. Biological activity of oil seed removal. Detoxification.



It usually includes the following processes: oil seed shelling: increasing the protein content of oil meal. Crushing: Reduce grain size. Steaming/tempering: Reduce the viscosity of finished oil and adjust the moisture content of oil. Rolling embryo: destroy the cell structure of oil. Cleaning: Good pretreatment starts with cleaning. Cleaning is very important. It can not only ensure the quality of the final product (oil and meal), but also avoid the early wear and tear of the pretreatment equipment. As maintenance costs and vulnerable parts are reduced and production costs are reduced, investment in cleaning equipment will soon be rewarded. Cleaning usually uses the combination equipment of separating screen and suction fan (suction vibration screen), if necessary, other methods can be used to remove shell, fine material, stone, sand, metal and so on.

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Crushing: The purpose is to reduce the size of the grain and ensure the uniformity of steaming. Crushing is accomplished by two wrinkled crushing rolls. The crusher usually uses one or two pairs of crushing rolls (embryo rolling mills). The number of crushing rolls and the size of wrinkles on the rolls depend on the size of oil seeds. At present, the single crusher production capacity can reach 1000 tons per day. Hammer mill is used for raw materials such as palm kernels.

Embryo rolling mill is mainly composed of two or several rolls (high nickel-chromium alloy) rotating in opposite direction. When oil (soybean, peanut, cottonseed) passes through the middle of the two rolls, the embryo sheet is formed by instantaneous extrusion force, and crude oil is first rolled out, and then crude oil is rolled out.

The finished edible oil is formed by refining and leaching. It is a typical extrusion equipment. The quality of its equipment directly affects the oil output rate of oil plants. In the last century, large domestic oil and grease groups purchased equipment from abroad at a cost of about 3 million yuan each. Later, they began to engage in the production, development and sales of embryo rolling mills to help domestic oil and grease factories reduce costs.

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Steaming: During tempering, the oil is heated and the water is adjusted to an ideal state. No matter which kind of steaming frying pan uses 6-10 bar of steam as heating medium, if used for pressing, oil is heated to 90-110 C, if used for direct leaching, then heated to 65-72 C. All oil must be rolled into embryos. The oil is rolled into 0.3-0.4 mm thick embryos by two large smooth rollers to facilitate oil production. The two smooth rollers with different operating speeds friction each other to produce embryos. Blade thickness is controlled by adjusting the pressure between the two smooth rollers, while the pressure is controlled by hydraulic pressure and adjusted automatically. At present, the production capacity of single machine can reach 350 tons per day.