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Small Edible oil refining machine instruction

Two tanks:

Volume of tank	360L
Motor voltage	380,50hz
Heating power	8KW
Refining temperature	110-120℃
Weight	100kg
Size	1500*580*1250mm

Three tanks:

Volume of tank	500L
Motor voltage	380,50hz
Heating power	13.5KW
Refining temperature	110-120℃
Weight	190kg
Size	2400*710*1670mm

Four tanks:

Volume of tank	800L
Motor voltage	380,50hz
Heating power	24KW
Refining temperature	110-120℃
Weight	250kg
Size	2400*710*1670mm

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I. Abstract

Through consulting the literature of edible oils and fats, as well as on the summary of the production practice, After pressing oil only filtered oil，To get the oil is still crude oil，The pot is easy to foam, easy to rancidity, long precipitation is placed, dark color and should not be eaten, Squeeze the oil must go on the oil refining process. This has become a consensus. Crude Oil purification problems has been plagued by oil mill owners, For this research and development production of portable intermittent oil refining machine to meet the needs of processing oil mill, To satisfy the general oil fang do processing oil mill oil purification needs.

After the factory of the edible oil refining machine refining oil oil meet the national second class above the standard, can be directly filling sales.

Refer to the process design of the factory, Design the intermittent hydration degumming, alkali refining method of acid, clay adsorption decolorization. Reference in the design of the domestic and foreign advanced technology, the phosphate auxiliary degumming method was adopted, would reduce the content of phosphate ester to the requirements of the range. Use the continuous and efficient mixer, and use settling separation principle of soapstock, degum deacidifying process to achieve the standardization production. Deacidification using the low temperature long mixed alkali refining process, Can neutralize the most big free fatty acids in the oil, Generation is not dissolved in the oil, fatty acid sodium salt as flocculation and sedimentation.

Sodium hydroxide and role to generate sodium fatty acid soap, reaction speed, And generate sodium soap for surface active substances, adsorption and absorption ability is stronger, Can be a significant number of impurities such as protein, pigment, phospholipids and material with hydroxyl groups are also into the fallout, Even suspended solid impurities can also be flocculent soap regiment carry down, the most significant advantages of alkali refining is with acid, degumming, solid impurities, decoloring combination. Decolorization process adopts the advanced clay blanking device, to ensure the uniformity of clay blanking and cost-effective, To ensure the decolorization effect. Filter can make continuous filtration decoloring oil provides conditions for the whole process of standardization production. In addition, in order to passivation metal ions may to oxidation of oils and fats, produce bad flavor, in the process of oil cooling joined a certain amount of electrolyte. Make the product of the edible oil secondary standards.

II.Technology Introduction

Crude oil contains a certain amount of glycerin three acid lipid composition. Such as free fatty acid, water, suspended impurities, pigment, volatile substances, odor material, etc.

Must adopt certain technical measures, the separation of oil and impurities, In order to improve the stability and security of the oil consumption and storage. So will adopt the method of refining oil removal of impurities. As a cooking oil processing -- -- -- -- -- the last section in oil refining, its main task is to produce high quality refined oil.

1.1:Degumming is one of the most important link in the refining process, Because of the existence of colloid depress the edible quality of refined oil products, Make oil during bleaching clay dosage increased, Deodorization oil will have serious odor and affect the stability of the refined oil products. Hydration is one of the commonly used methods of degumming. Hydration degumming is the use of phospholipids glue soluble impurities such as hydrophilicity, To make a certain amount of hot water or dilute alkali, salt, phosphate, such as electrolyte aqueous solution, add to the hot oil under stirring. Make the condensed water soluble impurities, then separated. This process USES the type of hydration process of warm water ,Small scale oil plant is widely used method in warm water.In addition, Hydration before adding a certain amount of phosphoric acid, After reaction, make the content of nonhydratable phospholipids, into nonhydratable phospholipids. Such a phospholipid content is greatly reduced, can obtain good effect of degumming.

1.2:Deacidification is also the main process of oil refining, crude oil contains a certain amount of free fatty acids, By refining, can neutralize a large majority of crude oil in free fatty acids, fatty acid sodium salt generated does not dissolve in the oil, a flocculation and sedimentation substance. Sodium hydroxide and role to generate sodium fatty acid soap, reaction speed, And generate sodium soap for surface active substances, adsorption and absorption ability is stronger, can be a significant number of impurities such as protein, pigment, phospholipids and material with hydroxyl groups are also into the fallout, Even suspended solid impurities can also be flocculent soap regiment carry down, the most significant advantages of alkali refining is with acid, degumming, solid impurities, decoloring combination.

1.3:Bleaching is one of very important working procedure in the oil refining process, which in addition to the emergence of oil pigment, Still can rise to reduce phospholipid content, peroxide value, soap content as well as the role of the metal ion content,to improve the oil color, flavor and improve the oxidation stability. By far the most commonly used method is activated clay adsorption decolorizing, that's,use the clay which has strong selective adsorption material, Under certain conditions in removing the pigment in soluble in oil or colloidal particle dispersing pigments and other impurities in the oil, for the improvement of the oil color.

III.Operation process:

2.1:operation process：

Crude oil -→Put into Hydration tank-→Open the low-speed mixing,Heated to（70—95℃）-→The system enters the insulating state-→add 0.3%-1% of the concentration of a

saturated solution of gelling agent-→Open velocity mixing （rotating speed of 150-200r/min）20 minutes to 60 minutes-→Add 3% to 7% of micro boiling water-→Continue to stir at high speed（rotating speed of150-200r/min）15 to 30 minutes-→Stir to reduce speed to 40-60 r/min 20 to 60 minutes-→static heat、Stir the static settling 30-90 minutes-→Emissions honeylocust-→Heat up to115℃-→After dehydration processing-→Pump into the decoloring tank-→finished product oil degumming-→Process to complete

IV. The index balance grease：

The crude oil quality:
acid value : 2 ,moisture content :0.2% ,FFA%: below1% ,residual solvent :0.03%(300ppm)
Amount of phospholipids : 2% ,Amount of impurity: 0.2% ,Odor components : 0.1%
Product quality indicators
moisture and volatile matter: 0.05% , acid value : Below 0.2(that's FFA% 0.1%)
Impurities :Below 0.05% ,peroxide value: 5.0mmol/kg
colour and lustre: Y20，R2.0（Lovibond Tintometer 133.4 slots）

Process quality requirements
1）Crude oil filter： Impurities fell to below 0.05%.
2)Degumming ：Degumming: 0.5%，Phospholipid content:70ppm，Impurity 0.01%
（3）Deacidification： AV 0.8（that's FFA 0.04%）
（4）Adsorption bleaching ：impurity 0.05%，colour and lustre : Y20，R2.0，
Amount of phospholipids :5ppm
Transparency：Clear And Transparent, Smell Pure , Great Taste

V：regulare failure and failure elimination

Malfunction	Cause	Exclusion methods
Stirring speed is adjustable	Governor damage Controller damage	Replace the governor Replace the controller
Pressure tank pressure or vacuum	Open/close the valve is not Pipeline leak line clogging	Closed/open the valve Maintenance line Dredge pipe

Bleaching tank cover at the oil spill	seal broken Contact surfaces with debris Cover not pressed	Changed Sealing Ring Clean up the interface. Compaction machine head
oil is not clear and turbidity	Degumming is not completely Activated clay quantity is little Filter cloth broken	According to the process to o Increase the amount of clay Replace the filter cloth

VI .Warranty scope：

According to the warranty scope and standards prescribed by the state
The equipment warranty period is 6 months
Electric motor equipment warranty period is 3 months
The pump warranty period for 3 months

The following is not within the warranty scope：

Wearing parts is beyond the scope of warranty。
Man-made damage is not caused by improper use or within three packs.
Caused by force majeure is beyond the scope of warranty
The above shows that the interpretation owned by the company (factory)

VII. Refined oil sample:

sunflower oil

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