



ANYANG GENERAL



Best Service,
High Quality,
Competitive Price,
Timely Delivery.

Oil Mill Machinery

Anyang General International Co.,Ltd. is manufacturing and exporting company with a global outlook, production and supply of quality machines of oil mill machinery, oil press, oil milling plant, solvent extraction plant, oil refining plant and allied equipment.



SPIRAL OIL PRESS

Oil is extracted from a number of fruits, nuts and seeds for use in cooking and soap making or as an ingredient in other foods such as baked or fried goods. Oil is a valuable product with universal demand, and the possible income from oil extraction is therefore often enough to justify the relatively high cost of setting up and running a small scale oil milling business.

Raw material preparation

Oilseeds and nuts should be properly dried before storage, and cleaned to remove sand, dust, leaves and other contaminants. Fruits should be harvested when fully ripe, cleaned and handled carefully to reduce bruising and splitting. All raw materials should be sorted to remove stones etc. and especially moldy nuts, which can cause aflatoxin poisoning. When storage is necessary, this should be in weatherproof, ventilated rooms which are protected against birds, insects and rodents. Some raw materials (for example groundnuts, sunflower seeds) need dehusking (or decorticating). Small manual machines are available to give higher production rates than manual dehusking.

Methods of extraction

There are basically three methods of removing oil from the raw materials: solvent extraction, hot processing or cold processing. Solvent extraction is not suitable for small-scale processing because of high capital and operating costs, the risk of fire and explosions from solvents and the complexity of the process. Equipment for hot or cold processing is available at different scales of operation from household to industrial scale. Traditional methods of extraction are described below, followed by higher output manual machines and mechanized extraction.

Principle of extraction

Expellers are continuous in operation and work by grinding and pressing the raw material as it is carried through a barrel by a helical screw. The pressure inside the barrel, and hence the yield of oil, are adjusted using a 'choke' ring at the outlet.



Performance Index (Hot extruding) YZS-68 (5.5kw)

Raw Material	Capacity (kg/hr)	Output Rate (%)	Output Efficiency
Cotton seeds	50-60	12-14	65-72
Soy bean	28-37	10-16	61-65
Peanut kernel	45-60	35-45	91-92
Rape seeds	45-60	30-38	82-85



Performance Index (Hot extruding) YZS-80 (5.5kw)

Raw Material	Capacity (kg/hr)	Output Rate (%)	Cake Residual(%)
Rape seeds	80-100	30-35	7.5-8
Ground nuts	80-100	35-45	7
Beans	75-95	10-14	6.5-7
Sesame	80-100	44-47	6.5-7.5
Cotton seeds	40-50 (cold press)	10-14	5.5-6.5



Performance Index YZS-95 (7.5kw)

Raw Material	Capacity (kg/hr)	Output Rate (%)	Cake Residual(%)	
Rape seeds	Hot pressing	150-170	30-38	7.5-8
	Cold pressing	75-95	28-35	
Peanut	Hot pressing	150-185	35-45	7
	Cold pressing	65-95	32-40	
Bean	Hot pressing	135-160	10-16	6.5-7
	Cold pressing	70-105	8-14	
Sesame	Hot pressing	150-185	44-47	6.5-7.5
Cotton seeds	Cold pressing	95-105	10-14	5.5-8.5



Performance Index YZS-100 (7.5kw)

Raw Material	Capacity (kg/hr)	Output Rate (%)	Cake Residual(%)	
Rape seeds	Hot pressing	150-170	30-38	7.5-8
	Cold pressing	75-95	28-35	
Peanut	Hot pressing	150-185	35-45	7
	Cold pressing	45-65	32-40	
Bean	Hot pressing	145-160	10-14	6.5-7
	Cold pressing	70-105	8-14	
Sesame	Hot pressing	150-170	44-47	6.5-7.5
Cotton seeds	Cold pressing	85-105	10-14	5.5-6.5



Performance Index YZS-120/YZL105 (11kw)

Raw Material		Raw material Feeding per hour(kg)	Oil output per 100kg raw material	Dry cake residue(%)
Rape seeds	Hot pressing	7000-8000	30-38	7.5-8
	Cold pressing	2400-3000	28-35	
Peanut	Hot pressing	5000-7000	35-45	7
	Cold pressing	2000-3000	32-40	
Bean	Hot pressing	6000-7000	10-16	6.5-7
	Cold pressing	2500-3500	8-14	
Sesame	Hot pressing	7000-8000	44-47	6.5-7.5
Cotton seeds	Cold pressing	3000-3500	10-14	5.5-6.5



Performance Index (Hot extruding) YZS-130 (15-18.5kw)

Raw Material	Capacity (kg/hr)	Output Rate (%)	Cake Residual(%)
Rape seed	333-415	30-38	7.5-8
Ground nut	350-450	35-45	7
Soybean	290-330	10-16	6.5-7
Cotton seeds (cold pressing)	220-290	10-14	5.5-6.5



Performance Index (Hot extruding) YZL130 (18.5kw)

Raw Material	Capacity (kg/hr)	Output Rate (%)	Cake Residual(%)
Rape seed	410-500	30-38	7.5-8
Ground nut	420-500	35-45	7
Soybean	350-410	10-16	6.5-7
Cotton seeds (cold pressing)	320-370	10-14	5.5-6.5



**Performance Index (Hot extruding)
YZS-165 (22-30kw)**

Raw Material	Capacity (kg/hr)	Output Rate (%)	Cake Residual(%)
Rape seed	500-625	30-38	7.5-8
Ground nut	530-630	35-45	7
Soybean	450-530	10-16	6.5-7
Cotton seeds	430-500	10-14	5.5-6.5

OIL PRESS WITH ELECTRICAL HEATER



YZS series and YZL series are all can designed to this model. It includes electrical heating pipe and control cabinet. The power of heating pipe is 1.5kw

Usually, when press the oilseeds, the oil press need be grinded first using raw material, in order to make the pressing temperature of chamber reach 80-120 degree. Then there is oil come out. If there is no heater, it takes about 30 minutes to make the temperature reach the appointed temperature. But this kind of heated oil press only needs five minutes.

Moreover, the heater is also helpful for increasing oil output. Especially for lower oil-bearing oilseeds, such as soybean, cotton seeds.

INTEGRATED OIL PRESS

The integrated Vegetable Oil Presses are advance model from the oil press. This kind of oil press includes motor, vacuum filter, heater and electric control cabinet. The assistant part can help the oil press with higher output. The function of the vacuum oil filter used to filtrate the crude oil which come out from oil press. They are an ideal choice for customers.



Main Technical Data of Integrated oil press

Model	Capacity	Power	Weight	Outside dimension
YZS-80A	100kg/h	5.5+0.75kw	700kg	1890×1160×1790mm
YZS-95A	150-200kg/h	7.5+1.1kw	900kg	2100×1200×1890mm
YZS-100A	200kg/h	7.5+1.1kw	900kg	2100×1200×1890mm
YZS-120A	250kg/h	11+1.5kw	1000kg	2200×1250×1890mm

OIL PRESS WITH DIESEL ENGINE

YZS series and YZL series oil presses also can match the diesel engine as follows.



Model	YZS-68	YZS-80	YZS-95	YZS-100	YZS-120	YZS-130	YZL130
Power	8-10HP	8-10HP	12-15HP	12-15HP	20-22HP	25-30HP	30HP

LARGE SCALE OIL PRESS

These vegetable oil & biodiesel processing plants are with big capacity which mostly use in middle-large scale oil plant. They can be divided into two kinds: One is hot processing, which includes steam cooker and oil press. The steam cooker is used for oilseeds pretreatment before pressing. The other is the cold processing. The advantage of this kind of machine is lower temperature when press the seeds. It is about 80 degree, which can protect the nutrition element in the oil.

These are oil plants with big capacity, high oil output, low oil residual, light processed fats color, good quality, rich nutrient.



Main technical Data of Large oil press

Model	Capacity(T/D)	Power(KW)	Net weight(KG)	Dimension(MM)
200A-3	8-10	18.5	4300	2850×1850×3270
YZL24	20	45	5000	2900×1850×3240
YZL28	40-60	50+11+4	9160	3740×1920×3843
YZL32	90-120	90+11+5.5	11000	4100×2270×3850

CLARIFICATION OF OIL---OIL FILTER

Crude (freshly extracted) oil contains moisture, and fiber, resins, colors etc. from the plant material, which make it darker and more opaque. These materials are removed by clarification either by letting the oil stands undisturbed for a few days and then separating the upper layer, or by using an oil filter. The oil is filtered through a cloth and heated briefly to 100°C to boil off any remaining traces of moisture. This is usually sufficient to meet the quality needs of customers and give a shelf life of several months when correctly packaged. However, the oil requires additional refining stages of de-gumming, neutralising and de-colouring to have a similar quality to commercially refined oils, and these stages are difficult to complete at a small scale.



Main Technical Data

Model	Capacity	Power	Net Weight	Outside dimension
YLY-250	100kg/h	0.75kw	155kg	840×610×710mm
YLY-350	200kg/h	1.1kw	500kg	1340×7200×940mm
YLY-65	1000kg/h	3kw	2500kg	3000×1020×1187mm

PORTABLE BIO-DIESEL REATOR

This unit was designed to process 400 liters per batch of Bio-diesel.



BP400 BIO-DIESEL REATOR

Main features:

1) Closed and automated Pre-mix system

The mix of methanol and NAOH is done inside a closed container that minimizes operator exposure to catalyst components, which can be dangerous.

2) Premix agitation system

Our field studies have revealed that the creation of sodium methoxide is sometimes hampered by crystallization and subsequent isolation of NAOH from the catalyst process thru mistakes in blending during the process. Our addition of an agitation system to the premix tank alleviates any messy and potentially hazardous exposure to catalyst components. This modification option minimizes the operator's exposure to the catalyst and its initial components.

3) Multi feedstock heater

Additional heater system installed on the reaction tank and frame. This option allows the operator to utilize a wider range of feedstock. As this units processing is accomplished with heated feedstock the resulting transesterification process is greatly accelerated. The machine's operations allow the user to control both catalyst induction and feedstock warming in any combination thereby optimizing the production effort.

Included with the processor you'll receive complete instructions manual, maintenance and trouble shooting, and a lab kit complete with titration instruments and safety gear for the process.

The process

The oil is pumped into the main tank (Big tank) and heated until reached desired temperature that was previously set with the automated digital thermostat.

Methanol is pumped into the closed premix tank (small tank) and the selected catalizer introduced a few minutes after while the methanol is circulating.

Once the catalizer is totally dissolved with methanol, methoxide is obtained.

Using a very simple and safe method, methoxide is pumped into the main tank where oil reached the desired temperature.

The mixing process starts and one hour later the machines stops automatically.

Immediately the glycerin and bio-diesel separation can be seen through the plastic tank.

Let it settle for 6 to 8 hours and drain the glycerin from the bottom of the tank.

The bio-diesel is ready to be washed in our wash tank.



OIL MILL BUSINESS SCOPE

Our business scope is wide under the support of many engineering companies and our technology is the latest because we cooperate with the professors from Henan Grain & Oil Engineering University which is one of the main Research Universities on Grain & Oil Field in China. The wide range is as follows:

Oil Mill Machinery & Seed Processing Machinery

1. Turn-key projects of 10—300TPH oilseeds separating, cleaning, drying and storing;
2. Turn-key projects of 50-6000TPD oilseeds pre-processing, hulling and pressing(soybean warm hulling, soybean hull cracking, soybean expansion);
3. Turn-key projects of 10-30TPD oilseeds pressing line.(pressing oilseeds directly)
4. Turn-key projects of 30-300TPD oilseeds pressing line.(pressing oilseeds with the heating system)

Refinery, Solvent Extraction Plants

1. Turn-key projects of 50-6000TPD oils extraction (rotary extractor, loop extractor, desolventizer (DTDC));
2. Turn-key projects of 30-500TPD oils & fats physical/chemical continuous refining;
3. Turn-key projects of 20-300TPD sunflower oil, rice bran oil and maize oil de-waxing/winterizing;
4. Turn-key projects of 1-30TPD refining workshop in batch;
5. Turn-key projects of 20-500TPD aroma peanut oil production line;
6. Turn-key projects of 30-500TPD low temperature desolventizing lines(solvent: normal hexane);
7. Turn-key projects of 50-300TPD extraction (wet or semi-wet) and refining;
8. Extraction of special high-value oils & fats, and proteins with Solvent CPG(newly developed technology).

BRIEF INTRODUCTION OF BUSINESS SCOPE

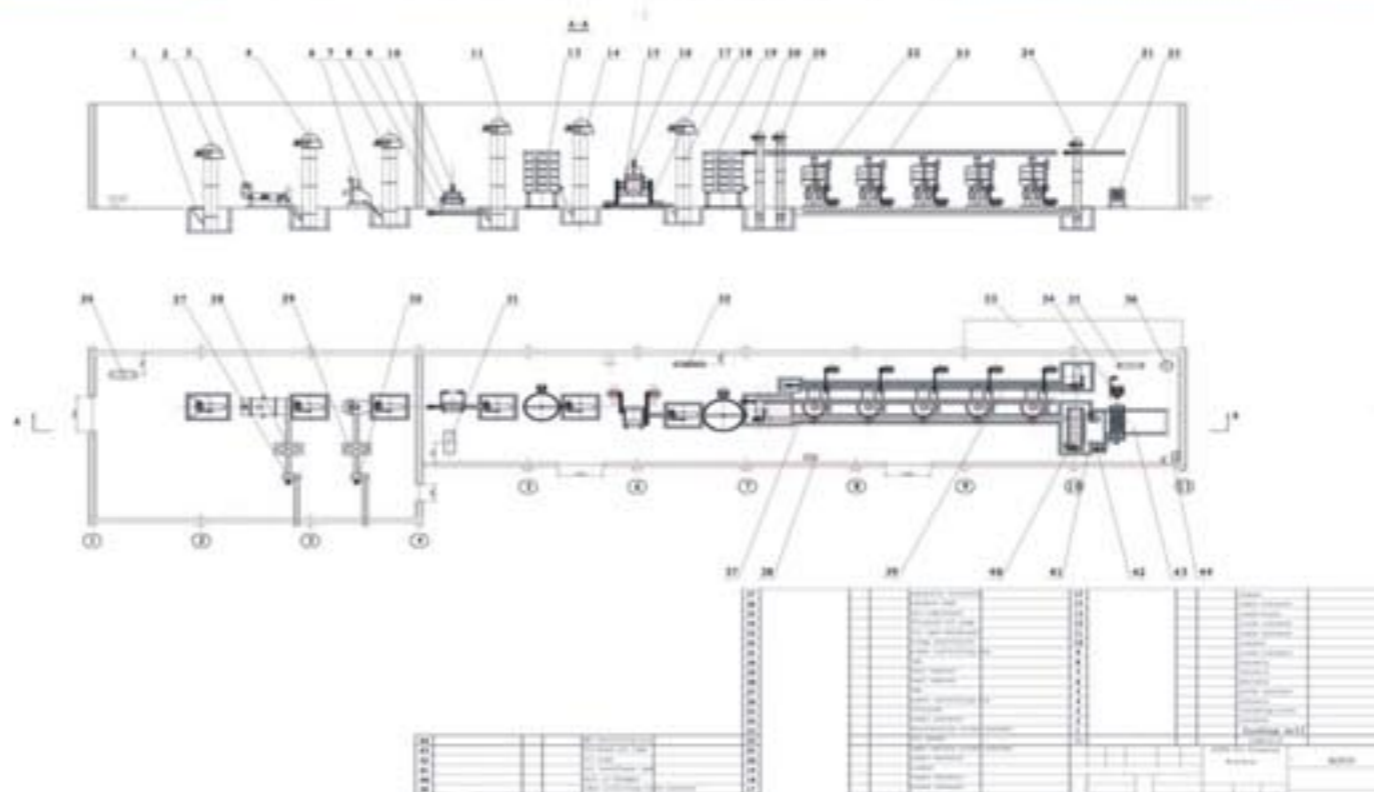
I .50TPD Sunflower Seeds Oil Pressing Workshop in Domestic

This is the installed project which is designed by our engineer and running successfully now.

Overview of the workshop



Flowchart



The plant under construction

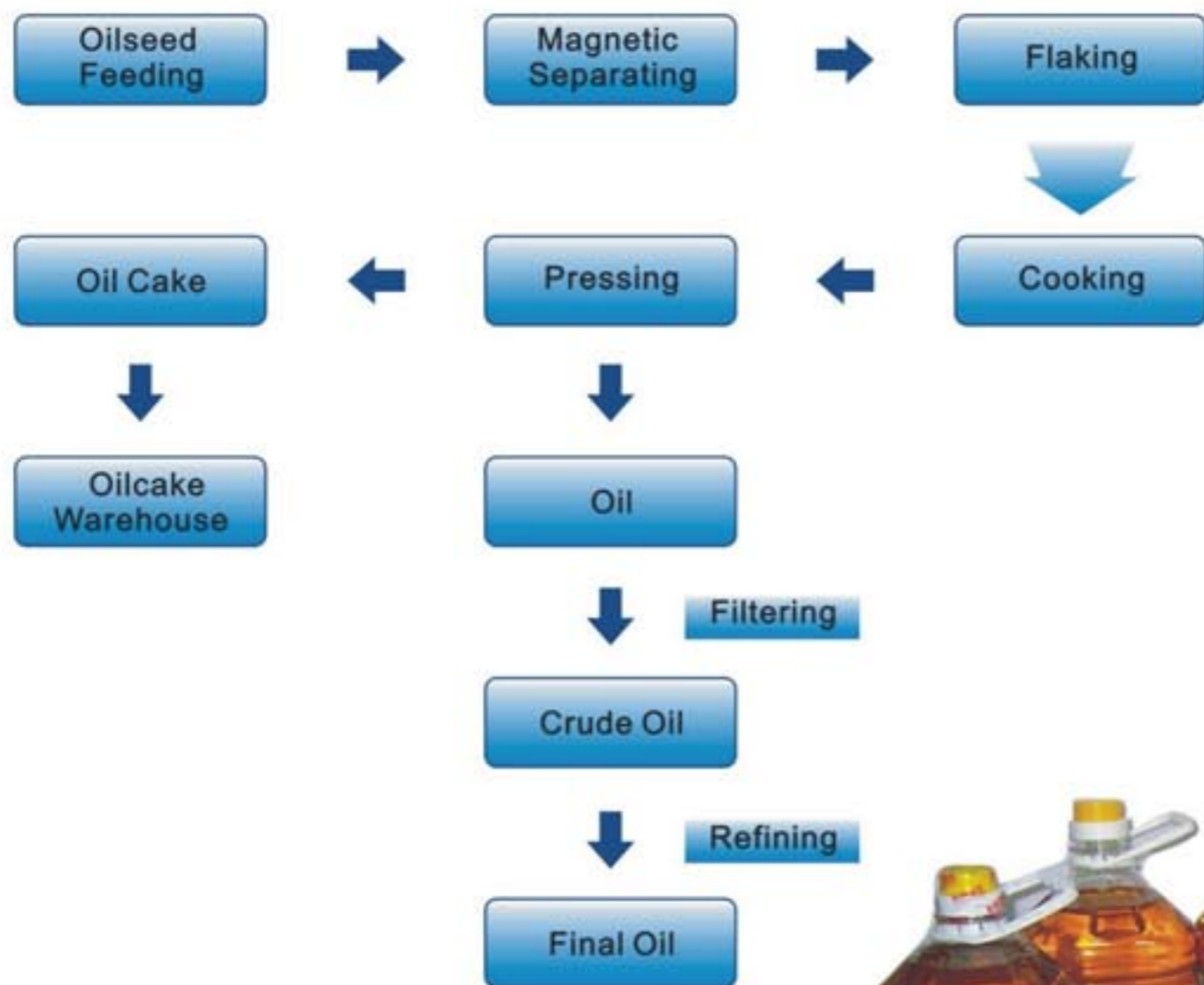


II、10TPD Oilseed Complete Line

Overview of the plant



Flowchart



Snapshot of the Main Equipment

III. Oilseed Extraction Line

Visiting installed project at Uzbekistan



Solvent Extraction Technology

We have two solvent extraction technologies as follow:

Normal technology, the solvent is hexane

There're two type of extractors. Belowed is the normal one called rotary extractor



Extractor (Rotary)

- Simple in structure and stable in performance;
- Additional horizontal grid plate prevents the miscella against flowing back to material cell and thus to ensure good extraction effect;
- The wet meal is discharged by Material Discharger. Which continuously discharge the wet meal onto the Wet Meal Conveyor. This can not only buffer impacting to conveyor, but also avoid meal bridging, un-uniform wet meal discharging and extending serviceable lift of Wet Meal Conveyor.

● Made up of pre-extraction, extraction and draining sections. There is material turnover in the process of extraction to make the extraction uniform and thorough. Special self-cell solvent spraying ensures good extraction effect.



Extractor (Loop-type)

Special high value oils extraction

Extraction of special high-value oils & fats, and proteins with Solvent CPG;

The feature of this technology is to process under low temperature to keep the character of the meal, on the other hand, to get high-value oils such as Rose Oil, Grape Oil, Pumpkin Seed Oil etc.



IV. Refining

Technology

We classify it into Physical Refining & Chemical Refining according to different technology. Features of these two technologies:

Physical Refining

Remove gums in oil with special degumming method. FFA in oil is removed with steam. Features:

- High oil refining ratio, less oil loss;
- No waste water discharged;
- More FFA distilled out;
- Especially suitable for oils of high acid value, and low gum content;

Chemical Refining

Neutralize FFA in the oil with alkali. Features:

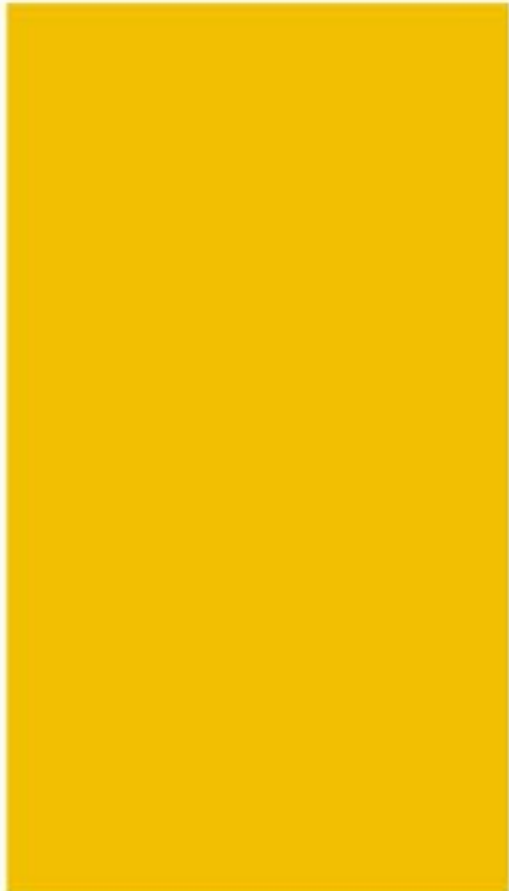
- Less requirements to crude oils;
- The finished oil is more consistent in quality;
- Less bleaching earth used compared with physical refining;

There're other classification ways such as Batch & Continuous according to processing lot.

Projects we can supply

In order to meet different clients' requirement, we have a large scope of equipments with capacity from 300kg/D~100MT/D. The oil grade after refining can reach to Grade 1, Grade 2, Grade 3 & Grade 4 Oil etc. There're two technologies, one is batch, the other is continuous. Normally we adopt batch type when the capacity is less than 20MTPD, otherwise, we adopt semi-continuous or continuous.

We're keeping on researching new equipment, the equipment we developed has the feature of full automatic, advanced technology and can be combined according to different clients' requirements. The latest refining equipment group consists of many single units and has the heating system itself which save energy without using boiler. This equipment occupy less area and funds, furthermore, it has more functions and can be used to produce Grade 1, Grade 2, Grade 3 & Grade 4 Oil etc.. It's the ideal equipment for farmers.



2TPD~5TPD Intigravtive Refinery In Batch



If you are the beginner at oil production area, this is what you need.

The small refining workshop in batch,
With Easy installation,
Easy Operation, Easy Placing,
Low Investment but Fast Efection

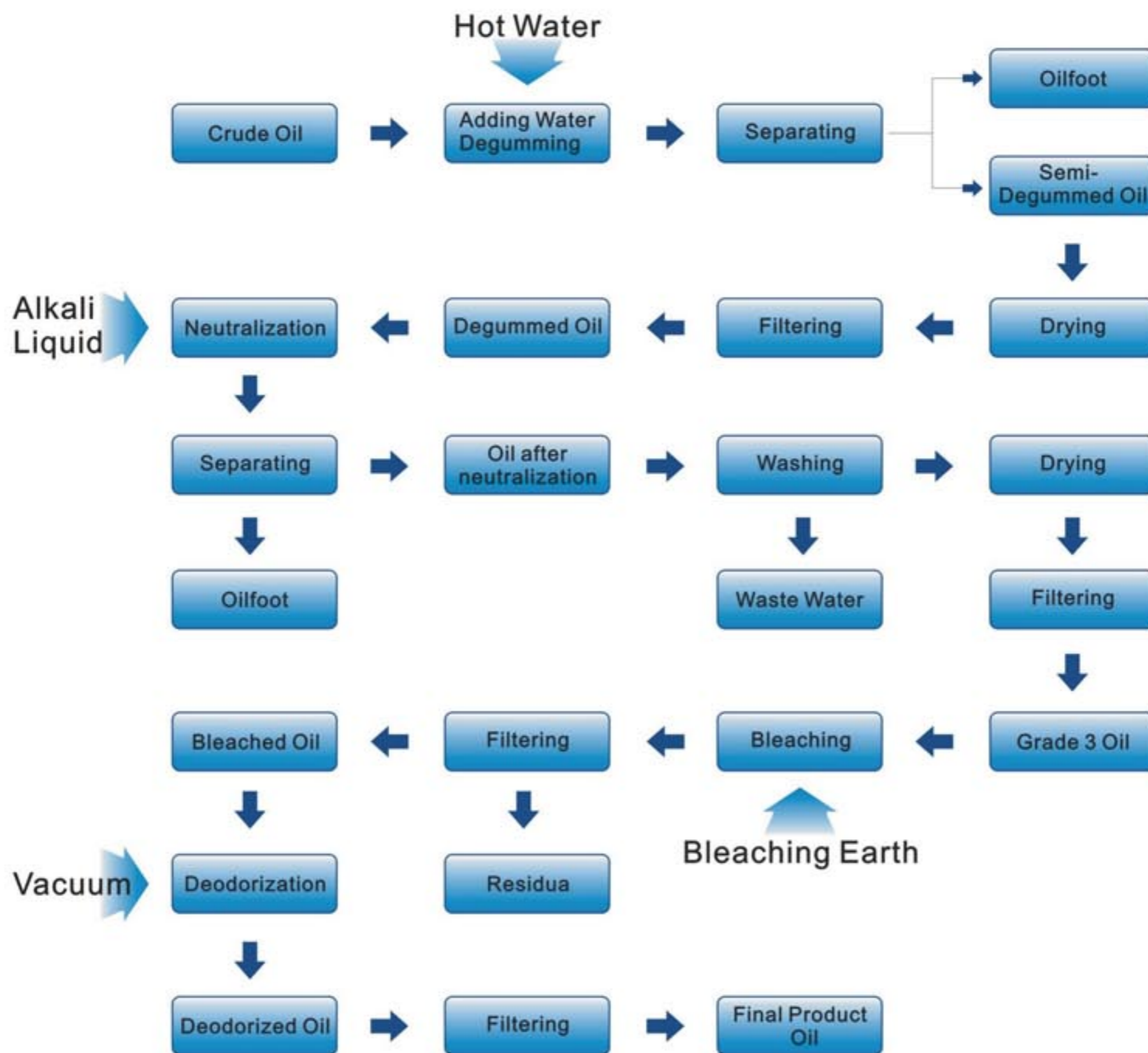
If you want 10~20TPD refinery , and you need to change your oil material frequently. Please go for batch or semi batch, which can save energy for the fast material change.

For the capacity from 30TPD~500TPD line, Especially with the single main material oil processing, Continuous refining workshop is what you want.



CONTINUOUS REFINERY SECTIONS

Technology to produce Grade 2 & Grade 1 Oil Flowchart



All the above is the technology to process normal crude oil such as rapeseed oil, soyabean oil, cottonseed oil etc. We have to do De-waxing processing further if the crude oil is crude sunflower seed oil, crude rice bran oil or crude corn germ oil.

PROJECTS WE HAVE INSTALLED

Projects on abroad

- 1)200TPD Delinted Cottonseed pretreatment,primary pressing, extraction & refining line in Uzbekistan.
- 2)160TPD Delinted Cottonseed pretreatment,primary pressing, extraction & refining line in Kazakstan.
- 3)80TPD Delinted Cottonseed & sunflower seed pretreatment, primary pressing & refining line in Kazakstan.
- 4)100T/D Peanut, soyabean, cottonseed pressing & refining processing line in Nigeria
- 5)100T/D cottonseed & sesame seed pressing & 20TPD refining processing line in Nigeria
- 6)50T/D Soyabean pressing & refining line in Brazil
- 7)100T/D Soyabean pressing & refining line in Australia
- 8)100T/D Soyabean pressing & refining line in Russia
- 9)100T/D Rapeseed pressing line

In domestic

- 1)100T/D Sunflower kernels Oil Processing Line in Neimeng Province
- 2)80T/D Rapeseed Primary Pressing Line in Huangzhong County
- 3)200T/D Cottonseed Pretreatment,100T/D Solvent Extraction,50T/D Oil refining Complete Line in Hunan Province
- 4)500T/D Rapeseed Oil Processing Line in Hunan Province
- 5)300T/D Rapeseed Oil,180T/D Soyabean,200T/D Solvent Extraction Line in Xiaogan City
- 6)200T/D Aroma Peanut Oil Processing Line in Shandong Province
- 7)450T/D Cottonseed,300T/D Rapeseed Primary pressing & Solvent Extraction Line in Xinjiang Province
- 8)300T/D Peanut Oil Processing Line in Shandong Province
- 9)50T/D Rice Bran Oil Processing Line
- 10)300T/D Corn Germ Oil Processing Line in Jilin Province

