CROWN
MACHINERY

CROWN
MACHINERY

New Innovation Technology for Palm Oil Product from Crown Machinery

Crown Machinery Enterprise Introduction

Crown Machinery Inc. is a modern innovative high-tech centrifuge R&D and manufacture enterprise with four main branches in global work located in USA , South Korea, Philippine and China. Adhering to the concept of quality is the enterprise life, innovation is the driving force for the development, Conform to the trend of the development of modern industry, Fusion concept of global economic integration, Creative thinking, Integrate liquid separation processing industry leading enterprise in the upstream and downstream resources; Gather technical force; Together with the power of the global enterprise for business purposes; Dedicated to supply the clients complete separation solution.

Our company assemble a number of skillful, talented professionals, introduction advanced of international centrifuge technology with 30 years experiences of the development and design, through adopting international advanced management method, we have developed very professional separator and centrifuge for edible oil , pharmaceutical , chemical , waste project and various liquid industry. Until now we have accumulated more than 500 clients in global world market and get wide good feedback for our products and service, as our enterprise name "Crown Machinery" described we would like to supply the products like the crown quality and service.

Nowadays, our USA branch mainly forwards the waste-water market; Manila branch mainly prompts the coconut products machinery in Asia-Pacific market; Our Korean branch also named the Hanil Science Medical Co.,Ltd. is focusing on the Bio-tech and Bio-pharmaceutical market; And Liaoyang Crown Machinery Co.,Ltd. in China works as the head-quarter of four branches to serve the machinery selection, sale, technology support and after-service job.

Up to now, we have successfully introduced many clients' final products such as coconut oil into Chinese market to achieve a mutually beneficial win-win situation. We do hope serving the client not only the products but also the wonderful experience to cooperate with us.

Welcome to contact and visit us.

CROWN
MACHINERY

www.crown-machinery.com

Palm Oil Extraction

CHINA
No.13093-06-02 Victory Community
Baita District Liaoyang
China

PHILIPPINES
Suite 310 Intramuros Corporate Plaza
Recoletos St., Intramuros Manila
Philippines

USA
6900 46th Street Kenosha
WI 53144

KOREA
1039-9,NOWON3GA,BUK-GU,DAE-GU SI,S,KOREA

sales@crown-machinery.com

+86 186 4192 8887

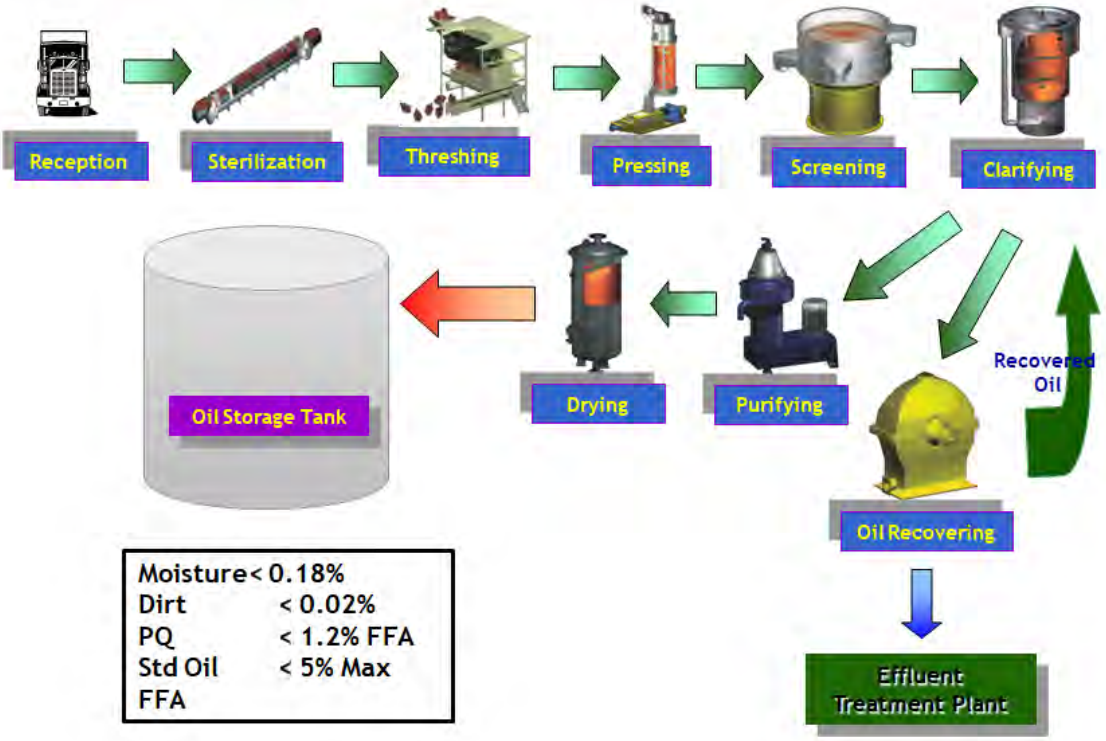
China **+86 419 2883215**
Philippines **+63 2 2549729**
USA **+1 262 656 7680**
Korea **+82 42 825 4260**

+86 419 2122006

Palm oil is a very productive crop. It offers a far greater yield at a lower cost of production than other vegetable oils. Global production of and demand for palm oil is increasing rapidly. Global production of palm oil has doubled over the last decade. Worldwide demand for palm oil is expected to double again by year 2050 to 240 million tones.

To help improve production efficiency and optimize profits, Crown Machinery has developed customized solutions for flexible process management, which minimize water and energy consumption. In addition to providing advanced individual machines, we can supply entire process lines, or even design and implement complete, customized installations. Crown Machinery centrifugal separation technology, concentration equipment guarantee maximum yields at any scale of production.

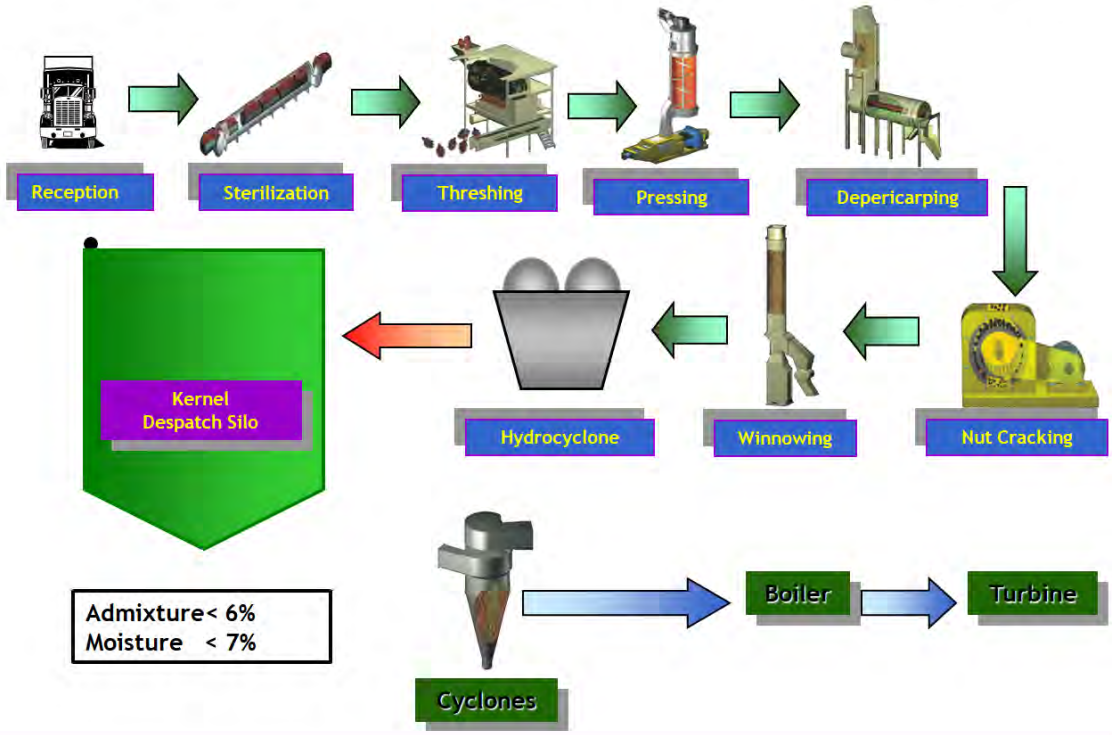
Typical Palm Oil Mill Process Flow (Crude Oil)



Oil recovery and Oil refining: Innovative Process Technology

Crown Machinery offers process technology for the recovery and refining of palm oil, as well as oil refining for press oil clarification, degumming, neutralization, dewaxing, fractionation and soapstock splitting. Our technologies are also used for the production of high-quality biodiesel.

Typical Palm Oil Mill Process Flow (Kernel)



Red Oil Extraction

Digested fruit is continuously conveyed through the cage towards an outlet restricted by a cone, which creates the centrifugal force to separate the oil and the water from the mixture. Oil-bearing cells that are not ruptured in the digester will remain unopened if or centrifugal extraction system is employed. It can effectively break open the unopened oil cells and release more oil. These centrifuge act as an additional digester and are efficient in oil extraction.

Oil Purification and Recovery

The main point of clarification is to separate the oil from its entrained impurities. The fluid coming out of the press is a mixture of palm oil, water, cell debris, fibrous material and 'non-oily solids'. Because of the non-oily solids the mixture is very viscous. Hot water is therefore added to dilute it.
To prevent increasing FFA through autocatalytic hydrolysis of the oil, the moisture content of the oil must be reduced to 0.15 to 0.25 percent. Centrifuge can help you solve that problem.

Palm Kernel Oil

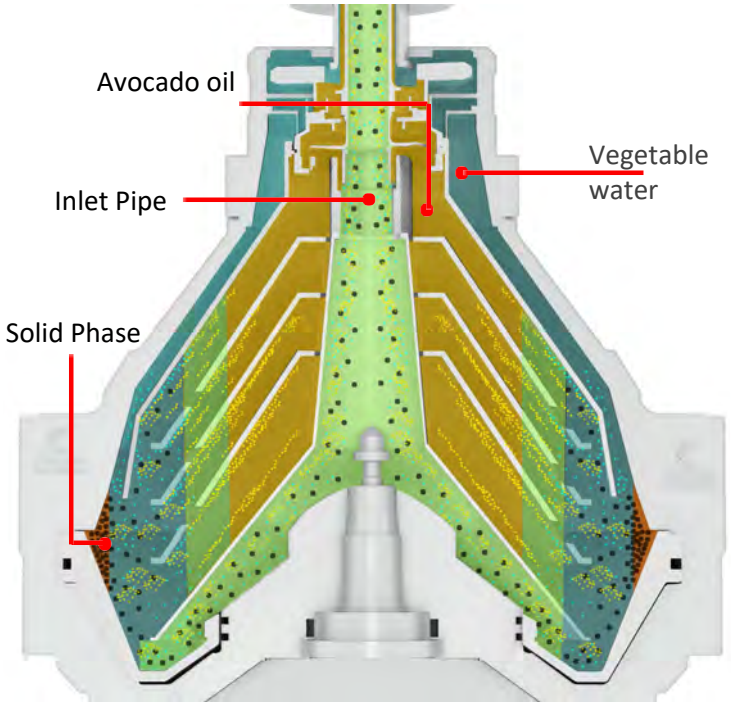
The residue from the press consists of a mixture of fibre and palm nuts. The fibre is then pressed in spindle presses to recover a second grade (technical) oil that is used normally in soap-making. The nuts are usually dried and sold to other operators who process them into palm kernel oil. For this reason it makes economic sense to recover the fibre and to shell the palm nuts.

The traditional oil extraction method is to fry palm kernels in old oil or simply heat the dried nuts. The fried kernels are then pounded or ground to a paste.Then again, you can use centrifuge to efficiently separate the water and palm kernel oil.

Centrifugal Separator Application

In designing equipment for palm oil extraction one of the key factors to consider is the quality required. The most critical stages in the processing sequence for a processor seeking to satisfy these criteria are:the purity of the crude palm oil extraction; and effective clarification and drying of the crude oil after extraction.

Application of centrifuge can ensure the purity of the crude palm oil and quickly and effectively clarify the crude oil compared with traditional method.



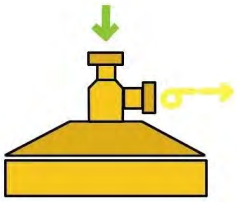
DGS series Disc Centrifuge Main Parameter

Model	Bowl Speed (rpm)	Through-put Capacity (L/H)	Running Load (kw)	Dimensions (mm)		
				Width	Front-to-Back	Height
300	7302	300-500	4	950	950	1250
400	7070	1000-2000	7.5	1555	1130	1640
480	6600	3000	15	1780	1500	1900
500	6600	5000	18.5	1780	1500	1900
550	6000	10000	22	1800	1850	1900

*Actual production capacity base on the raw materials.

Liquid Feeding/Discharging Configuration

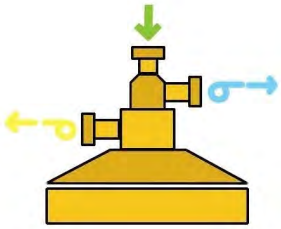
DGC series
One liquid Phase



Feeding Material

Liquid Phase

Flow with Pressure



DGS series
Two liquid Phase

Feeding Material

Light Phase

Flow with Pressure

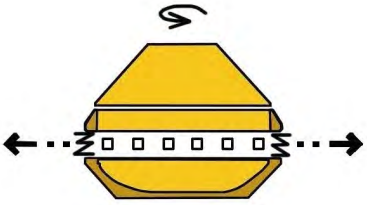
Heavy Phase

Flow with Pressure

Discharging Method

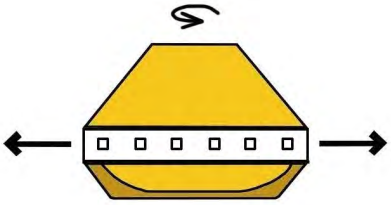
Manual Discharging

Shut down and open the bowl, manually remove the inside sediment by labor.



Automatic Discharging

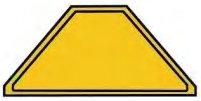
Through Intermittent open lower parts of the bowl, sludge discharged automatically.



Continuous Discharging

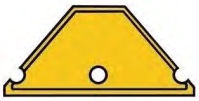
Sludge discharging achieve by the nozzles around the pericline.

Disc Separation



Clarification

Separate the solid particles form the liquid



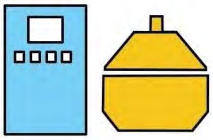
Separation

Separate a heavy liquid phase from major light liquid phase, meanwhile the suspended solid particles be separated as well. Maximum level of purified the light liquid phase.

Concentration

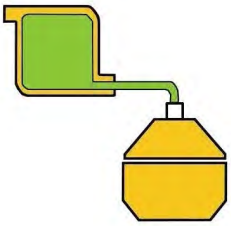
Separate a light liquid phase from major heavy liquid phase, meanwhile the suspended solid particles be separated as well. Maximum level of purified the heavy liquid phase.

Optional Components and Systems



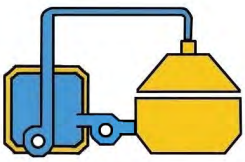
Electric Cabinet

Monitoring and adjustment of power , parameters setting and safety devices.



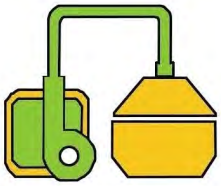
Gravity Feeding System

Ensure the material contnous and stable feeding to centrifuge.



CIP Cleaning System

Control the system clean the separation components automatically.



Feeding Pump

Ensure the flow of material to the centrifuge is stable and adjusted automatically.

HDC series Decanter Centrifuge

Based on the more 30 years separator technics experience, we have developed and advanced the previous centrifuge and separator .

When separator operation is no longer feasible due to high proportions of solids in the suspension to be processed, decanter centrifuge is used, a horizontal, solids-oriented, solid-wall scroll centrifuges.

Decanter Centrifuge Main Parameter

Model	300 x 1350	355 x 1600	450 x 1800	520 x 2200	650 x 2600
Bowl Dia. (mm)	300	350	450	520	650
Through-put Capacity (L/H)	1000-3000	3000-5000	50000-100000	100000-200000	200000-500000
Bowl Length Dia.(mm)	1350	1600	1800	2200	2600
L&D Ratio	1:4.5	1:4.5	1:4.0	1:4.2	1:4.0
Bowl Speed (r/min)	4200	3800	3200	3000	2800
Separation Factor	3000G	2868G	2575G	2620G	2850G
Screw Differential (r/min)	5-30 Stepless Ajustable	2-20 Stepless Adjustable	4-28 Stepless Adjustable	5-25 Stepless Adjustable	5-25 Stepless Adjustable
Motor (kw)	Main Motor11 Vice4	Main Motor15 Vice7.5	Main Motor30 Vice11	Main Motor45 Vice15	Main Motor75 Vice22
Noise db(A)	≤85	≤85	≤85	≤85	≤85

*Actual production capacity base on the raw materials.

CROWN
MACHINERY

2017 CATALOGUE

PHILIPPINES
Suite 310 Intramuros Corporate Plaza,
Recoletos St., Intramuros, Manila
Philippines

Tel: +63 2 2549729

CHINA
No.13093-06-02 Victory
Community, Baita District
Liaoyang,
China

Tel: +86 419 2883215

KOREA
2FL, Hanil bldg, #527-1 Hagi-Dong,
Yuseong-Gu, Daejeon, 305-358, Korea

Tel: +82-42-825-4260

AMERICA
6900 46th Street Kenosha,WI
53144,America

Tel:1-262-656-7680