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New Innovation Technology for Olive Oil recovery 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.

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Olive Oil Recovery Centrifuge

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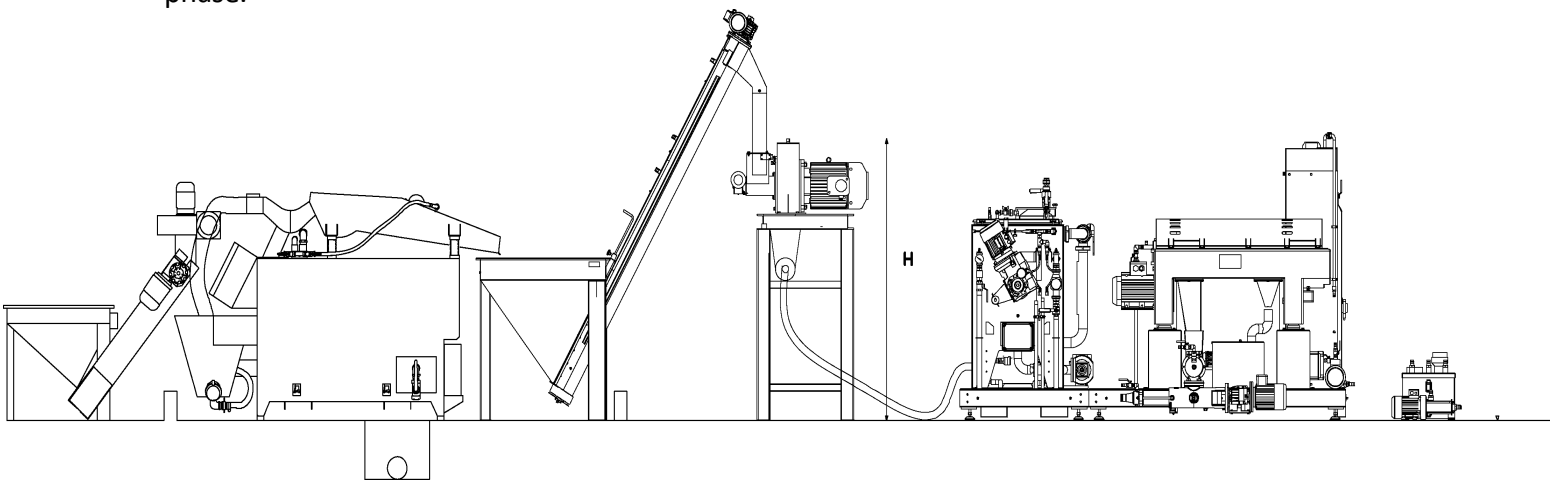
Olive oil is one of the oldest of all cultural assets. rich in monounsaturated fatty acids, which are considered a healthy dietary fat, as opposed to saturated fats and trans fats. Olive oil is thought that olive trees were being cultivated as long as 6000 years ago in Asia Minor. Around 1600 B.C. the Phoenicians spread the use of olives through Crete and Egypt to the rest of the Mediterranean region. Populations from that region have longer life expectancies and lower risks of heart disease, high blood pressure and stroke, compared with North Americans and Northern Europeans. By now, The native Extra olive oil is ascribed the best composition of saturated and unsaturated fatty acids, making it the best of all edible oils.

Industrial production of olive oil has been supported by Crown Machinery centrifuges to meet people's growing needs day by day.

Nowadays, Crown Machinery has been closely following the trend of olive oil and developed to combine the advantages of decanter centrifuge and disc stack centrifuge to harvest high quality pure olive oil to create more benefit for the olive oil plants and more healthier edible vegetable oil for terminal customers.

Olive Oil Extraction

Prior to processing, olives are cleaned to remove leaves, bits of branches, stones, soil, and other impurities. Then a mash is produced by crushing the olives and the olive stones. This mash is conveyed to the malaxer or kneading mill. Through malaxing, the oil is released from the oil cells by which it is encapsulated. The malaxing procedure is critical for oil yield and oil quality. The influencing parameters are holding time and temperature. Then the mash is pumped to the 2-phase decanter or 3-phase decanter for separation. In the 3-phase decanter, the mash is separated into oil, fruit water and solids, i.e. olive stone debris and pulp. On the way to the 3-phase decanter, dilution water is added to the feed in order to fluidize the mash. In the 2-phase process, the mash is separated into oil as liquid phase and solid phase (pomace) consisting of olive stone debris, pulp and fruit water. The 2-phase process requires very little or no dilution water in the feed to the 2-phase decanter. The oil from the 2-phase decanter or 3-phase is then polished using a disc stack centrifuge, which separates the residual amount of water and solid impurities to obtain a clean oil. In the 3-phase process, a second disc stack centrifuge is used to recover the residual oil from the water phase.



Crown 2-Phase and 3-Phase Decanters

The essential part of the Crown Centrifuge is the rotating part, consisting of a cylindrical/conical bowl with a conveyor scroll inside which rotates at a differential speed. The rotating part is driven by electric motors via belt transmission. Feed enters the bowl through a central feed pipe. Through ports in the scroll body, the feed passes into the bowl where separation by centrifugal force takes place.

In 2-phase decanter, the product is separated into a liquid phase (oil and water mixture) and a solid phase (stone debris, pulp etc). In a 3-phase decanter, the product is separated into a light liquid phase (oil), a heavy liquid phase(water), and a solid phase (stone debris and pulp).

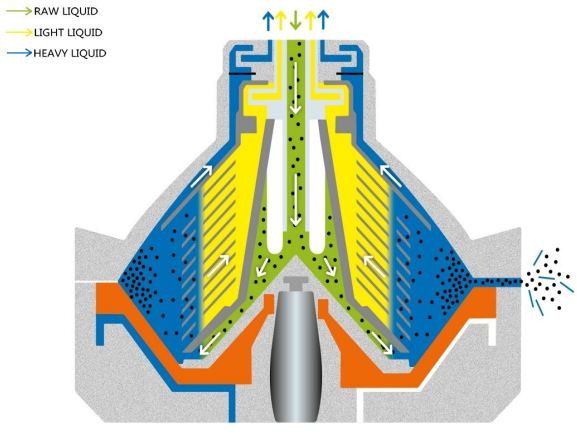
The separated oil is discharged by gravity in both cases, while in addition in a 3-phase decanter, the separated water phase is discharged by an impeller under pressure or by gravity. The separated solids are conveyed by the scroll to the conical end of the bowl and are discharged

DGS/DGC series Disc Stack Centrifuge

Disc stack centrifuges with a self cleaning bowl are used for the separation of oil, water, and solids. Via a fixed feed pipe, the product to be separated enters the inside of the bowl which is rotating at high speed. The product flow is divided into multiple thin layers by the disc stack and a large surface area is created. From the disc stack, the separated liquids flow to the upper part of the bowl where the oil is discharged under pressure via an impeller. The separated water leaves the bowl by gravity over a ring dam. Due to high centrifugal force, the separated olids are packed tightly against the bowl wall. The separated solids are ejected at full speed by means of a hydraulic system in the bowl bottom. The hydraulic system of the Crown Centrifuges enables total and partial bowl discharges. The opening/closing procedure is released by a pulse of operation water directly before the discharge. Solenoid valves provide an exact proportioning of the operation water.

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.



Advantages of Crown Machinery's Centrifuges

All the advantages at a glance

•Maximum oil yield
•Premium product quality
•Minimum waste water volumes (in 2-phase system)
•Individually adjustable machine parameters
•Easy handling
•High efficiency – rapid amortization

Advantages of the 2-phase process

•No addition of dilution water necessary in most cases
•The olive oil obtained in the 2-phase process contains all natural constituents of oil (polyphenols), giving the oil a more intense taste
•Solid / water mixture can be processed relatively easily (e. g. for pit separation, water separation and olive oil recovery)
•No separate waste water phase in decanter

Advantages of the 3-phase process

•Dry solids are easy to transport
•Solid quantity is only 50 percent of the feed quantity
•Established infrastructure for processing of solids in traditional industry

Advantages of the purifying process

- Virtually no oil loss during bowl discharge by fully automatedpartial discharge and oil displacement.
- Reduced air contact by closed construction of feed and oil discharge.
- User-friendly, continuous and automatic operation by control via PLC.
- Reduced downtime by enhanced cleaning capability.

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2017 CATALOGUE

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