



# 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 wastewater 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.**





## Solutions for Starch and Sweeteners

Crown machinery's starch series centrifugal equipment is mainly used in starch production of corn, cassava, potatoes, wheat and other raw materials for following process:

- Pre-concentration of puree
- Gluten and starch separation
- Gluten concentration
- Gluten washing and clarification.
- Starch production waste-water

Centrifuges can also be used for pre-concentration, separation, concentration and clarification of two different materials in the pharmaceutical, chemical and food industries which are compatible with the pre-concentration, separation, concentration, clarification function of the machine.

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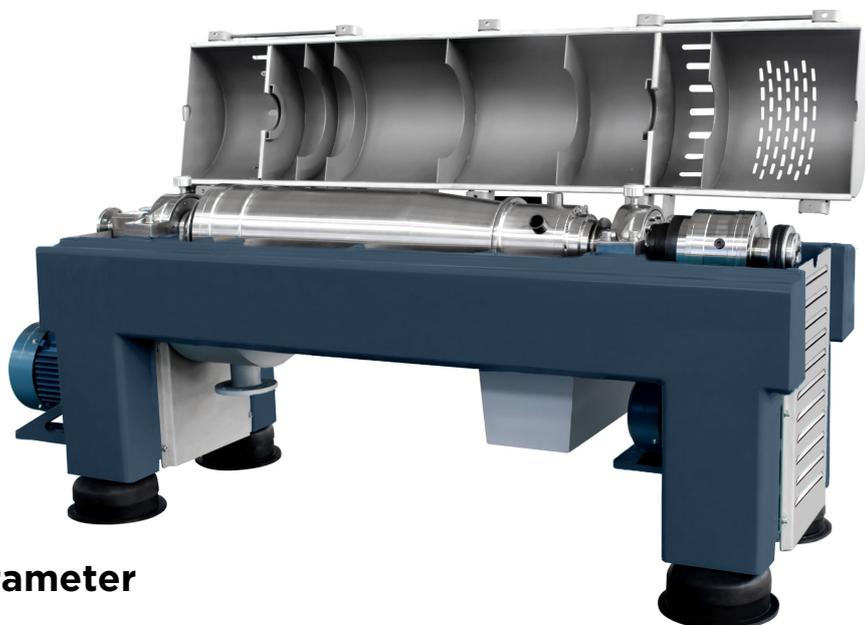
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## Application of Centrifuge in Starch Production

Decanter centrifuge perfectly apply to starch and protein separation of whole process. Starch and vegetable protein are insoluble in cold water, therefore the water as the auxiliary medium to form a suspension condition, which is suitable for following separation process. The Decanter centrifuge (HDS/HDC series centrifuge) can separate the starch and protein with different density, also able to isolate the starch and protein which are not dissolve in water from the suspension. The specific operation is divided into the following steps:

- **Waste-water Concentration**
- **Dehydration**
- **Separation**



### 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 Adjustable	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.



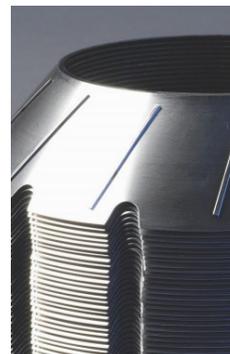
## Waste-water Concentration

Waste-water generate from starch production is high viscosity and contain small particles, cause the Filtration method works inefficiently and even no effect. For wastewater of which density is higher than 5%, It can directly use decanter centrifuge ( HDS/HDC series) for concentration and dehydration to recovery the dry materials. If the density is too much lower, the combination of decanter centrifuge working together with disc centrifuge should be a better option. Firstly, using a **Decanter centrifuge** (HDS/HDC series) for pre-concentration, then applying a **Starch centrifuge** (DSF series) for dehydration.

Decanter centrifuge has a long drum, which is capable to handle high concentrations materials contained high (19% to 23%) solid content with large particles (5 mm or more larger ); continuous operation compare with disc centrifuge machinery scheduled cleaning within every 2 ~ 3 days, which is an obvious advantage; Relatively, the Starch Disc centrifuge ( Nozzle type) only adapt for low concentrations of material with the solid particles not greater than 1 mm (otherwise the nozzle of centrifuge is easy to block), solid phase content should lower than 12% ~ 14%,



DSF series Starch Centrifuge



### DSF series Starch Centrifuge Main Parameter

Model	Bowl Speed (rpm)	Capacity (T/H)	Running Load (kw)	Dimensions, Overall (mm)		
				Width	Front-to-Back	Height
800	2750-3300	22-130	110-132	1500	2800	2200
935	2250-3300	45-260	200-250	1800	3200	3100



## Dehydration

Efficiency of centrifuge dehydration is 5 to 10 times higher than of the method using evaporation (heat, freezing, etc.). If contain small particles in the slurry , the viscosity is relatively high, then filtration method of dehydration is not only inefficient, but also with high moisture content after process. Gluten recovery (corn starch) and wheat starch dehydration achieve the better result via **Decanter centrifuge** ( HDS/HDC series centrifuge ) , moisture content is less than 54%.

### Advantages of DSF Starch Centrifuge:

- Easy maintenance and fair prices for service and maintenance thanks to compact machine design
- Individual and flexible adaptation to customer processes for optimal yields
- Full automatic discharge or manual discharge system can be chose.
- Customized solutions which can easily be integrated into existing processes and systems
- Optimum process layout: selection or combination of different separation equipment: decanters, disc stack centrifuges, belt presses and systems

## Separation

In the modern starch production process, **Decanter centrifuge** ( HDS/HDC series centrifuge ) as a highly efficient continuous operation equipment has been widely used, especially in the wheat starch production process.





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