



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.



Disc Centrifuge for Beverage Process

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With the gradually increasing requirement, the dairy and beverage markets also continue to expand, consumers are in the demands of good-quality milk, therefore the advanced equipment plays a more important role than ever. The centrifugal separator from Crown Machinery has the special design with centripetal pump and inlet/outlet port will create a suitable separation environment for the material to ensure the active ingredient in the material is not contaminated and keep the nutritional value and original flavor well. Separators or centrifuge enable to separate the fine particles (less than 1mm) which dispersed in suspensions .





DGC series Disc Centrifuge Application in Beverage Process

- Syrup(Orange juice, Apple juice etc.)
- Vegetable juice, Tea drinks, Coffee, Beer and other industries



DGC-400



DGC-500

Advantages of Disc Stack 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



DGC-550



Centrifuge Machine Standard Design

The machine has a main frame that consist a horizontal drive shaft with clutch and brake, worm gear, lubricating oil bath and vertical bowl spindle in the lower position.

The bowl is mounted on top of the spindle, fixed by the upper parts, the gasket, the collecting parts, and frame hood. The material feed into the bowl, by the effects of centrifugal force the liquid phase pumped out of machine through outlet pipe, meanwhile the solid phase adhere on the bowl wall, then were discharged automatically by operation water. The electric motor is of the variable frequency drive type or of controlled-torque type. All parts in contact with material are made of stainless steel.

Basic Equipment

Concentrator or purifier parts, inlet and outlet devices, revolution counter, set of erosion-protective parts, illuminated sight glass for liquid phase outlet, vibration sensor, vibration-isolating base plate, flange motor, set of tools and set of standard spare parts.

Optional Extras

Electric cabinet, frequency converter, discharge control panel, standard set of fittings, set of CIP valves and fittings and serviceability package for on-line viewing of separator status



Material Data

Bowl body, hood and locking ring S.S304 Solids cover and frame hood S.S304 Frame bottom parts green casting iron Inlet and outlet parts S.S304 Gasket and O-ring Nitrile rubber

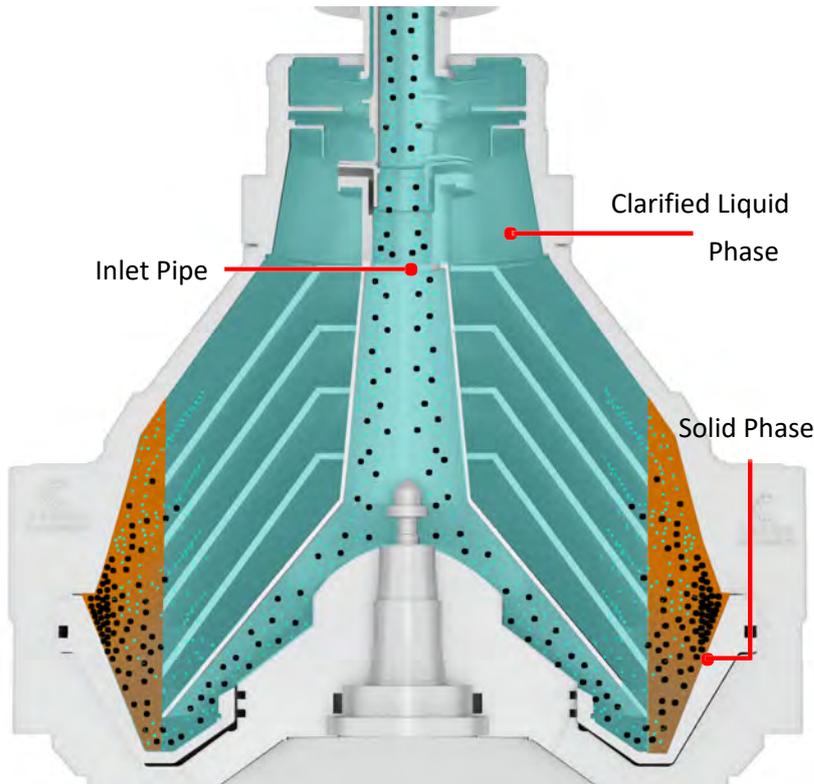
Disc Centrifuge Main Parameter

| 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.



DGC series Disc Centrifuge Operating principles



Whole separation process of a disc centrifuge accomplished through a rotating bowl, which is mounted on the top of the vertical axis driven by the motor at high-speed rotation. The bowl consist a paring of discs that are nestled together, and a small space between the disc.

Suspension is added by a inlet pipe located in the center of the bowl. When the suspension flows through the gap between the discs, the solid particles settle under the centrifugal force on the disc to form a sediment, then it slides out of the disc surface and accumulates in the largest diameter of the bowl, and the separated liquid discharges from the outlet of bowl. The solids phase will automatically discharged for batches.

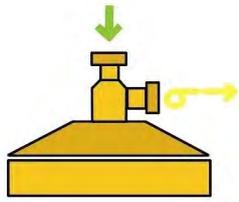
* A suspension is a heterogeneous mixture containing solid particles that are sufficiently large for sedimentation.





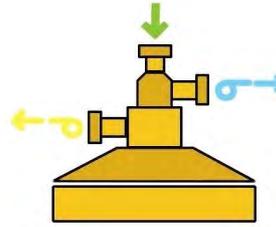
Liquid Feeding/Discharging Configuration

DGC series
One liquid Phase



- Feeding Material
- Liquid Phase
- ⤵ Flow with Pressure

DGS series
Two liquid Phase



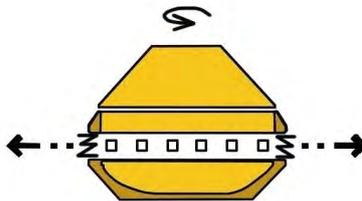
- Feeding Material
- Light Phase
- Heavy Phase
- ⤵ Flow with Pressure
- ⤵ Flow with Pressure

Discharging Method



Manual Discharging

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



Automatic Discharging

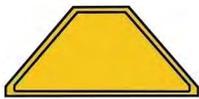
Through Intermittent open lower parts of the bowl, sludge discharged automatically.



Continuous Discharging

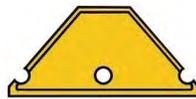
Sludge discharging achieve by the nozzles around the pericline.

Disc Separation



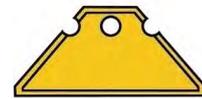
Clarification

Separate the solid particles from the liquid



Separation

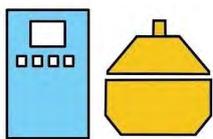
Separate a heavy liquid phase from major light liquid phase, meanwhile the suspended solid particles be separated as well. Maximum level of purified the light liquid phase.



Concentration

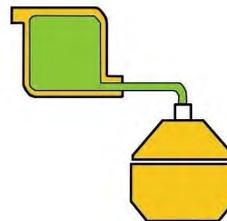
Separate a light liquid phase from major heavy liquid phase, meanwhile the suspended solid particles be separated as well. Maximum level of purified the heavy liquid phase.

Optional Components and Systems



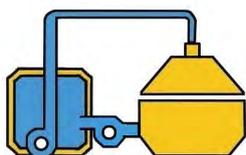
Electric Cabinet

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



Gravity Feeding System

Ensure the material continuous 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.



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