

Starch Peeler Centrifuges

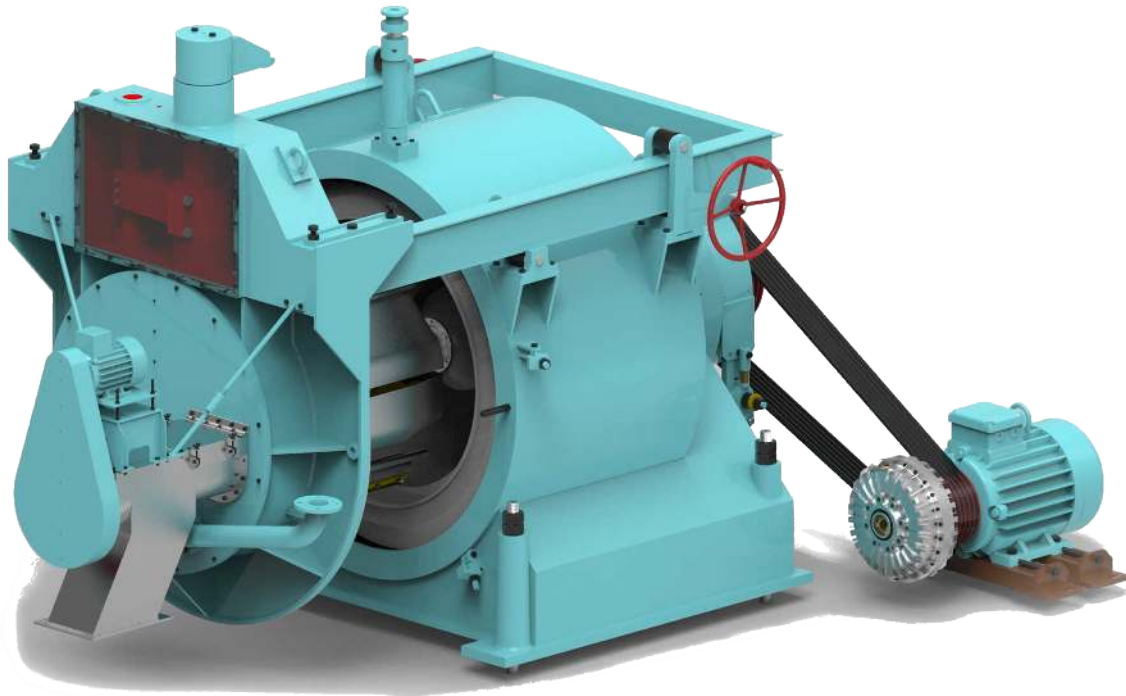


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WHIRLER

Starch Peeler Centrifuges

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Peeler Centrifuge Technology

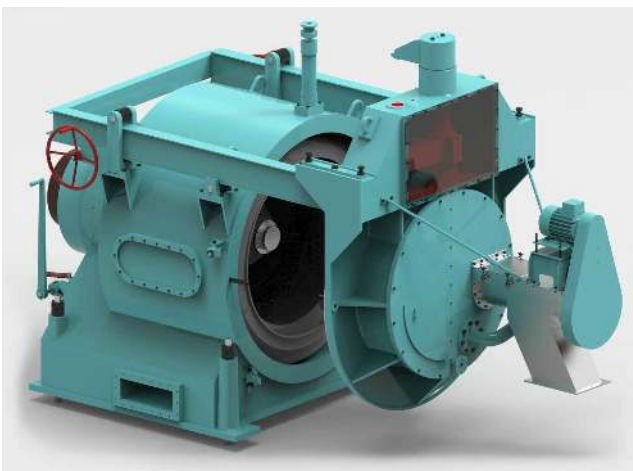
Horizontal Starch Peeler Centrifuge (Peeler Centrifuge) provides very high throughput and energy efficient starch dewatering, starting from 10 tonnes per day to up to 240 tonnes per day in single machine, providing highly efficient starch dewatering with minimum relative energy consumption.

How It Works

WHIRLER horizontal peeler centrifuges are batch operated filtration centrifuges known for their reliable long running performance at high throughput, up to 50% higher output in dryness or tonnage compared to Standard Centrifuges.



These machines are used in many processes, primarily in the bulk chemicals, fine chemicals, and food industries, notably starch from rice, maize, tapioca, potato etc.



The horizontal rotor assembly is cantilever mounted and provided with a specially designed

rotary basket. A convenient housing door provides access to the basket and all process components for ease of maintenance. Adding hydraulic fluid coupling, customized PLC controls and intuitive instrumentation enables the peeler centrifuge to be optimally adapted to a multitude of processing requirements for peak performance.



This machine works in continuous batch type mode with each batch timing varied from 1.5 hours to less than five minutes depending upon materials.



Compared with normal centrifuge, Horizontal Peeler centrifuge has a high capacity and separation effect. The separation adopts not only the centrifugal force, but also the gravity force. Capacity of this centrifuge can be higher than



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normal scraper centrifuge as 40%-60% and the moisture content of filter cake is lower.

Peeler centrifuge can continuously work and intermittently filter. It is either automatic control or manual control. The whole process of operation including materials feeding, separating, cleaning, dewatering, discharging and filter cloth recycling can be achieved at full speed. The single cycle of processing materials is short but with large quantities. The solid cake can be well dried and cleaned.



Here's a breakdown of how typical cycle works:

Feeding and Filtration

Slurry Introduction



The solid-liquid mixture (slurry) is fed into the rotating centrifuge basket, which contains a filterbag (often made of woven fabric like polypropylene or polyester).

Centrifugal Force

As the basket continues to spins at high speed, centrifugal force pushes the denser solid particles outwards against the filterbag.

Liquid Separation

The liquid (filtrate) passes through the filterbag and the perforated basket wall, collecting in an outer housing and then discharged.

Cake Formation

The solid particles are retained on the inner surface of the filterbag, forming a "filter cake."

Washing (Optional)

If required, a washing liquid can be introduced to further purify the cake, with the wash liquid also being separated by centrifugal force.



Peeling and Discharge

Peeling Phase

This is the unique and crucial part of the process. The key mechanism involves an scraper or peeling device push in to the filtercake using hydraulic or pneumatic actuators.

Cake Release

As the scraper pushes in to the filter cake, which was clinging to its inner surface, is peeled away and detached. It falls in to outlet chute or screw conveyor, and in turn The released cake falls by gravity to the discharge chute of the centrifuge.

Why the "Peeler Centrifuge" is Effective

High Throughput

Rugged build of Peeler Centrifuge allows all operatin to carry out at high speed, which results



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in high throughput and efficient separation of solids from liquids.

Automatic Operation

The peeler centrifuge is designed for continuous operation, allowing for high production rates with minimal downtime.



Low Moisture Content

The peeling mechanism ensures that the filter cake is efficiently removed, resulting in a low moisture content in the final product.

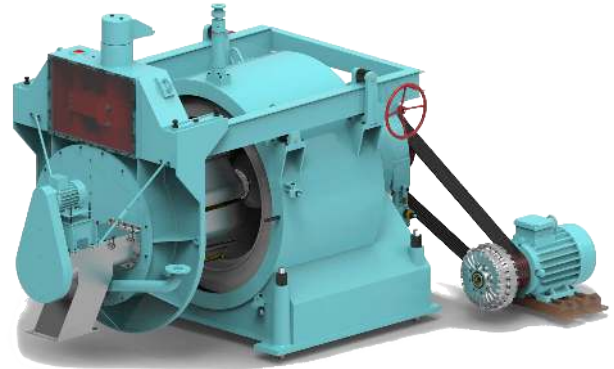


Whirler Advantage

WHIRLER Peeler Centrifuges are designed for high performance and reliability, with features such as

- Automatic operation with PLC control for precise process management.
- SCADA integration for real-time monitoring and control.

- High-speed operation with variable frequency drive (VFD) for energy efficiency.
- Safety features including emergency stop, overload protection, and vibration monitoring.
- Silicone and FKM Sealing Elements for leak-proof operation.



Applications

WHIRLER Peeler Centrifuges are used in various industries, including:

- Bulk chemicals
 1. Petrochemical intermediates
 2. Fertilizers
 3. chlorides
 4. sulfates
 5. calcium compounds
 6. sodium compounds
- Fine chemicals
 1. Aluminum fluoride
 2. amino acids
 3. bleaching agents
 4. surfactants
 5. herbicides
 6. pesticides
 7. catalysts
 8. dyestuffs
- Pharmaceuticals/related
 1. APIs
 2. vitamins
 3. salicylic acid
 4. citric acid
 5. ascorbic acid
 6. calcium citrate
 7. antibiotics
- Plastics/related
 1. ABS
 2. resins
 3. melamine
- 4. PE
- 5. PP
- 6. antioxidant agents
- Foodstuff/related
 1. Native and modified starches
 2. artificial sweeteners
 3. vanillin
 4. caffeine

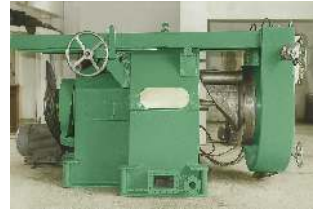
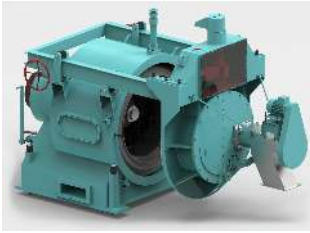
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Models

Models	210H80	170H51	160H51	160H46	140H31	120H21	100H11
Basket Diameter(mm)	2100	1700	1600	1600	1400	1200	1000
Basket Length(mm)	1220	1010	1010	910	710	510	400
Volume(Liters)	1820	990	870	790	470	250	140
Drive(HP)	215	180	150	120	100	75	40
RPM	760	870	900	900	960	1060	1200
Basket "G" Value	680	730	730	730	730	765	810
Filter Area(m2)	8	5.4	5.1	4.6	3.1	2.1	1.3
Cake (Kg) (32%Moisture)	1549	842	740	672	400	180	119
Cycle Per Hour(Starch)	10	10	10	10	11	12	12
Output (Kg) / Day (22Hour) (32%^Moisture)	15490	8420	7400	6720	4400	2160	1428
Capacity (Kg) / Day (22Hour) (32% Moisture)	340,780	185,240	162,800	147,840	96,800	47,520	31,416
Capacity (Kg) / Day (22 Hour) (Dryer Output)	235021	127752	112276	101959	66759	32772	21666
Per Hour Dryer Output	10683	5807	5103	4635	3035	1490	985
Final Basket Thickness	27mm	16mm	16mm	16mm	16mm	14mm	12mm
Feed Valve	200 & 150	180 & 130	150 & 100	150 & 100	100 & 70	70 & 50	50 & 30
Filterate Outlet	700 x 300	600 x 200	550 x 175	550 x 175	400 x 140	350 x 120	250 x 100
Input Baume	21	21	21	21	21	21	21
Overflow Baume	10 to 12	10 to 12	10 to 12	10 to 12	10 to 12	10 to 12	10 to 12

Above Performance is Suggested at Feed Slurry Concentration 21 Be, Solid Content 42 %, Protein Content 0.05 max. Feed Tank Bottom Height 3 meter and verflow 10 to 12 Be



Contact

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Clients

