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CENTRIFUGALS PVT LTD

VERTICAL BASKET
BOTTOM DRIVEN CENTRIFUGES

Vertical Basket Centrifuges

Bottom-driven vertical basket centrifuges are essential industrial machines used for solid-liquid separation. Their design, with the motor positioned beneath the basket, allows for efficient dewatering and clarification processes. These centrifuges are widely utilized across various industries, including chemical, pharmaceutical, and food processing, due to their robust construction and effective performance in separating solids from slurries.



Types of Vertical Basket Centrifuges

Here are common types of vertical basket centrifuges:

- **Manual Discharge Centrifuges:** The solids are manually removed after the centrifuge stops.
- **Bag Lifting Discharge Centrifuges:** The filter bag containing the solids is lifted out of the basket for discharge.
- **Automatic Scraper Discharge Centrifuges:** A scraper mechanism automatically discharges the solids while the centrifuge is still rotating at a low speed.
- **Bag Pulling Scraper Discharge Centrifuges:** The filter bag is pulled from bottom after scraping to completely discharge the solids.



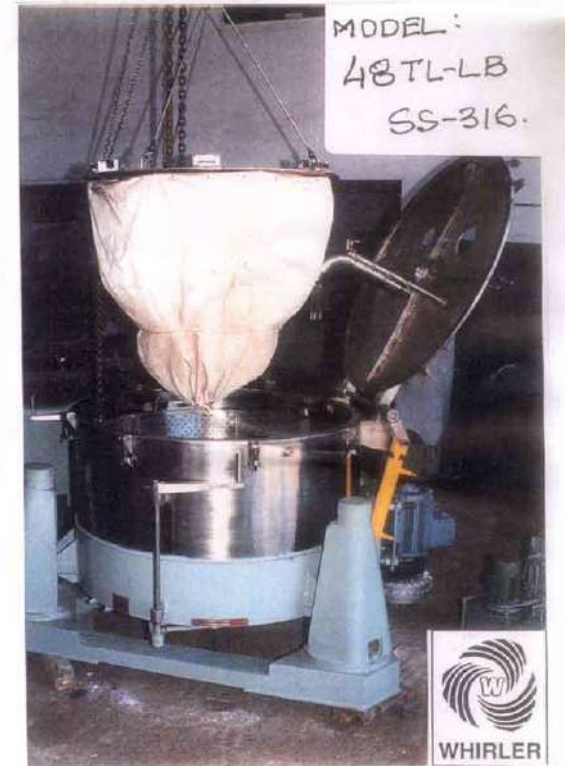
Manual Vertical Basket Centrifuges

Manual discharge centrifuges are a fundamental type of vertical basket centrifuge where the separation of solids from liquids is achieved through centrifugal force. Once the separation process is complete and the centrifuge basket comes to a full stop, the accumulated solid cake is removed by hand. This method is typically employed for batch processes and when the solids are cohesive and can be easily handled. While requiring more labor compared to automated systems, manual discharge centrifuges are often favored for their simplicity, lower initial cost, and suitability for applications with smaller production volumes or specific material handling requirements. They are widely used in laboratories and certain industrial settings for various solid-liquid separation tasks.



Lifting Bag Vertical Basket Centrifuges

Bag Lifting Discharge Centrifuges are a specialized type of vertical basket centrifuge designed for efficient solid-liquid separation. In these centrifuges, the solid cake is collected within a filter bag that lines the centrifuge basket. After the dewatering cycle is complete, the entire filter bag, along with the collected solids, is lifted out of the centrifuge using an integrated lifting mechanism. This method significantly reduces manual labor and minimizes product contamination, making it ideal for processes involving hazardous or valuable materials. They are particularly effective in industries such as pharmaceuticals, chemicals, and food processing, where product purity and ease of discharge are critical.



Bottom Discharge Vertical Basket Centrifuges

Bottom Discharge Vertical Basket Centrifuges are designed for efficient solid-liquid separation, particularly where the solids need to be discharged from the bottom of the machine. These centrifuges are often used for batch processes and can feature various discharge mechanisms, including manual scraping or automated systems. Some advanced models may utilize a "pull action" where a hydraulic cylinder pulls the filter bag down to discharge dried solids without human intervention, ensuring complete cake discharge and minimizing contamination. This type of centrifuge is commonly applied in industries like pharmaceuticals, food and beverage, and chemicals, where precise solid handling and hygiene are crucial. They are built to be durable and reliable, often from stainless steel, ensuring resistance to corrosion and ease of maintenance.



Types of Vertical Basket Centrifuges

- 3 Point Suspended Basket Centrifuge
 - A 3 Point Suspended Vertical Basket Centrifuge is a type of centrifuge where the rotating basket assembly is suspended from a support structure by three points. This design typically has a flexible suspension system, which helps in absorbing vibrations and allows for smoother operation, especially during cake imbalance. These centrifuges are commonly used for dewatering fine, crystalline, or granular solids in various industries due to their ability to handle uneven loads and provide efficient solid-liquid separation. Their suspended design also often allows for easier access for maintenance and cleaning.



Types of Vertical Basket Centrifuges

- 4 Point Supported Basket Centrifuge
 - A 4 Point Supported Vertical Basket Centrifuge is a type of centrifuge where the rotating basket assembly is supported by four points from a base structure. Unlike suspended designs, these centrifuges have their support directly underneath or around the basket, often with a viscous damping mounting to the floor. This design provides excellent stability and minimizes vibrations, making them suitable for heavy-duty applications and larger capacities. They are typically used in industries where high throughput and robust construction are critical, such as in chemical processing, wastewater treatment, and mining, for dewatering a wide range of solid materials.



Sizes of Vertical Basket Centrifuges

Vertical basket centrifuges are manufactured in a wide range of sizes to accommodate varying processing capacities and material characteristics. The basket diameter is a primary indicator of a centrifuge's size, and you'll typically find them ranging from as small as **12 inches (approximately 300 mm)** for laboratory or pilot-scale operations, up to **72 inches (approximately 1800 mm)** or even larger for heavy industrial applications.

- **Smaller sizes (e.g., 12-24 inches):** These are generally used for batch processing of smaller volumes, R&D, or specialized applications where precise control and rapid turnaround are critical.
- **Medium sizes (e.g., 30-48 inches):** This range represents a common industrial scale, suitable for a broad array of chemical, pharmaceutical, and food processing applications requiring moderate throughput.
- **Larger sizes (e.g., 60-72 inches and above):** These are designed for high-volume production and demanding industrial processes, such as wastewater treatment, mining, or large-scale chemical manufacturing, where significant quantities of solids need to be dewatered efficiently.

The choice of size depends on factors like batch volume, solids concentration, desired dryness of the cake, and the physical properties of the materials being processed.



MOC of Vertical Basket Centrifuges

- **Rubber Lining:**
 - **Description:** This involves applying a layer of rubber (e.g., natural rubber, neoprene, butyl rubber) to the interior surfaces of the centrifuge that come into contact with the process fluid.
 - **Purpose:** Rubber lining is primarily used for its excellent **corrosion resistance** against a wide range of acids and alkalis, especially when dealing with abrasive slurries. It also offers some level of abrasion resistance and can dampen vibrations.
 - **Applications:** Commonly found in chemical processing where corrosive liquids are handled, such as acid manufacturing, fertilizer production, and wastewater treatment.



MOC of Vertical Basket Centrifuges

- **SS (Stainless Steel):**
 - **Description:** Stainless steel refers to a family of iron-based alloys containing at least 10.5% chromium, which provides its corrosion resistance. Common grades include 304, 316, 316L, and Duplex.
 - **Purpose:** Stainless steel is widely used due to its excellent corrosion resistance in many environments, **hygienic properties**, and **mechanical strength**. Different grades offer varying levels of resistance to specific chemicals and temperatures. 316L is particularly popular for its low carbon content, which reduces carbide precipitation during welding, enhancing corrosion resistance.
 - **Applications:** Dominant in industries requiring high levels of hygiene and corrosion resistance, such as pharmaceuticals, food and beverage, fine chemicals, and some wastewater applications.



MOC of Vertical Basket Centrifuges

- **HALAR Coating:**
 - **Description:** HALAR is a brand name for Ethylene Chlorotrifluoroethylene (ECTFE), a fluoropolymer. It's applied as a coating to the centrifuge's surfaces.
 - **Purpose:** HALAR coating provides exceptional **chemical resistance** to a very broad spectrum of aggressive chemicals, including strong acids, bases, and solvents, often at elevated temperatures. It also offers **high purity, non-stick properties**, and good abrasion resistance.
 - **Applications:** Used in highly demanding environments where extreme chemical inertness and purity are paramount, such as in the pharmaceutical industry for highly corrosive or sensitive products, specialized chemical manufacturing, and semiconductor production.



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Technical Details



Model ->	Units	12TL	18TL	24TL	36TL	48TL	60TL	72TL
Basket Size	Dia mm	300	450	600	910	1220	1520	1830
	Height mm	160	250	300	450	500	600	900
Volume	Liters	10	25	50	140	250	450	700
Capacity	Kg	15	20	70	150	270	500	900
Filtration Area	M2	0.15	0.35	0.57	1.29	1.92	2.87	5.17
Speed	Rpm	1440	1200	1100	900	850	720	600
G Value	Rcf	695	724	812	824	985	881	737
Basket Thickness	mm	3	4	5	6	8	8	10
Cap	mm	3	4	5	6	8	8	10
Outer Case	mm	3	3	5	5	6	6	6
Motor	Hp	1	2	3	7.5	15	25	40

Options Availability



Model ->	12TL	18TL	24TL	36TL	48TL	60TL	72TL
Lifting Bag Option							
Bottom Discharge Option							
HALAR Coating							
GMP							
3 Point							
4 Point							
Portable							

Manufacturing



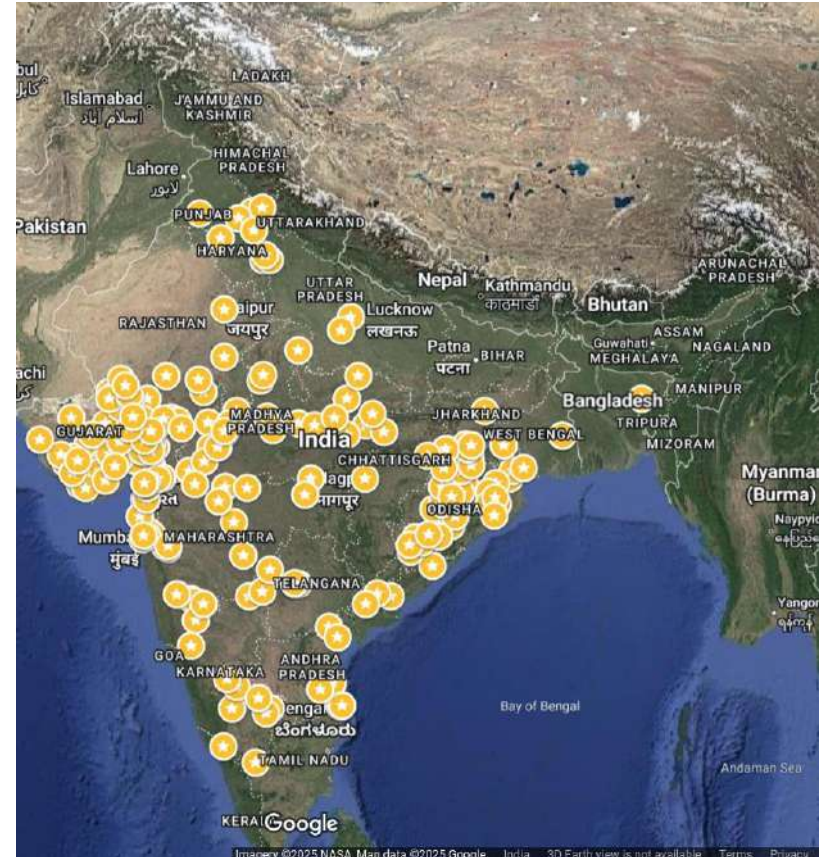
- Whirler has a manufacturing plant of ~72000 Square feet, near engineering city of India, Ahmedabad.
- Inhouse facility of Machining with modern equipment like CNC and VMC, CNC Grinding Machine, CNC Plasma Cutting Machine, Licensed CAD/CAM Softwares, 3 State of the art Balancing Machines, with strength of 100+ peronnels.
- Comprehensive manufacturing capacity of 200+ machines a year.



Reach



- Since last 45 years, we have supplied 2000+ machines to various industries..and all corners of India and abroad.
- From Peeler Centrifuge to Starch Industry to Pusher Centrifuge to salt and Gas Industry to Basket Centrifuges to Pharmaceutical Industries to Suspended Basket Centrifuges to Sugar Industries to Screw Press to STPs.



Chemical, Dye, Pharmaceutical, GMP, non-GMP, 3 Point, 4 Point, Vertical Basket Centrifuges



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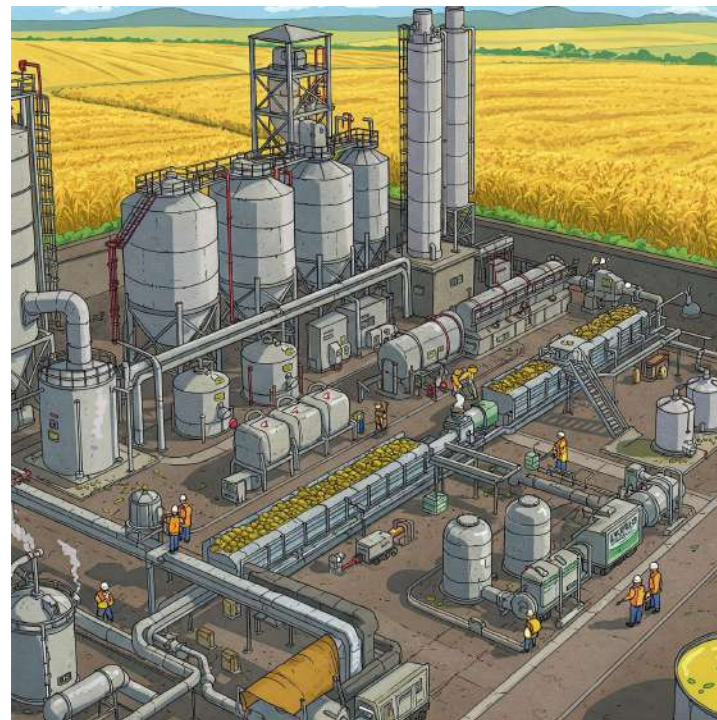
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Thank you for your time, consideration, and
opportunity to present WHIRLER's
centrifuge technology.

We look forward to mutually rewarding
opportunities.

Thank You.

Email : info@whirlercentrifugals.com

