

# PREMIUM BASKET CENTRIFUGE

HYDRO EXTRACTOR - TOP & BOTTOM DISCHARGE



TOP  
DISCHARGE

BOTTOM  
DISCHARGE



BASKET LIFTING  
ARRANGEMENT  
WITH  
STEAM JACKET



BAG LIFTING  
ARRANGEMENT



❖ THREE POINT SUSPENSION ❖ M.O.C. IN M.S. / S.S. / R.L.

❖ BASKET DIA : 300 mm-1500 mm ❖ EXTRA DEEP BASKET CAN BE PROVIDED

❖ DYNAMICALLY BALANCED BASKET ❖ HIGH G' VALUE



13 Nos., SS-316 Construction, Supplied  
to M/s. Govt. Opium & Alkaloid Works,  
Ghazipur (U.P.)

APPLICATIONS :

- BOBBIN DRYING
- BULK DRUGS
- CHEMICALS
- DAIRIES
- DYE STUFF
- FAT EXTRACTION
- FERTILISERS
- FOOD
- INTERMEDIATES
- LAUNDRIES
- METAL CHIPS
- SALT
- TEXTILE
- VEGETABLES / MUSHROOM

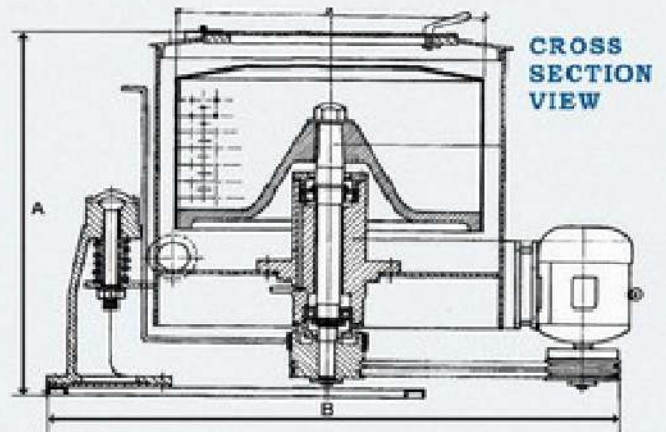
# TOP DISCHARGE PREMIUM BASKET CENTRIFUGE

## GENERAL DESCRIPTION

Centrifuge is equipment for separating solids & liquids. This is a faster method of filtration and eminently suitable for elimination of liquid or moisture from slurry & wet agglomerates.

In simple filtration operation, the liquid seeps down through the filter cloth because of gravity. The filter cloth permits the liquids to pass through but prevent powders to pass. After sometime the fine particles settle on the filter cloth & effectively "BLIND", the filter cloth & there by stopping the progress of filtration.

The above hindrance is eliminated in case of centrifuging, because of centrifugal action the gravity force on the liquid is very high, more than "400 TIMES" the normal 'G' VALUE. This causes very high pressure on the filter cloth and hence the fine particle powder is settled. The liquid is ejected through the space between the particles and reaches the filter cloth from where it is evacuated.



## OUTER CASING

the outer casing has cylindrical shell, bottom conical plate & top cover and it houses rotating basket. the outlet pipe is fixed in a tangential position in the direction of rotation for easy elimination of discharge liquid from rotating basket & flowing on the surface of shell & the conical plate.

## BASKET

The basket has a thick rigid plate at the bottom, fixed to a perforated cylinder. The bottom plate does not have any perforation. The perforated cylinder acts as a support to the filter cloth, which is subjected to centrifugal force and holds the wet powder. The basket is dynamically balanced for elimination of vibration during rotation.

The bearing housing holding the shell is fixed rigidly to the outer casing (under the conical bottom plate). The basket is fixed by taper lock on the bore and also by a dome nut having reverse thread. This combination ensures rigid locking of the basket to the main shaft during rotation of the basket.

During starting of rotation, a certain level of vibration is noticed. This vibration of the rotating body is transmitted to the outer shell because of rigid fixing of the bearing housing. Hence, outer casing is suspended on spring to isolate the vibration to the foundation. The outer casing is suspended on three springs. There are three legs holding the three springs by suspension bolts, which have a spherical heads. This helps in swinging of the bolts & avoid vibration affecting the leg, base frame and foundation.

The main shaft and bearings are critical parts of the equipment and are manufactured with extensive care for ease of assembly, maintenance and proper running. One of the bearing is "nu" bearing. The special feature is that suitable holes are drilled, providing passage for grease the bearing without dismantling the bearing housing. The annular space between the shaft and the bearing housing is filled with grease and act as reservoir for grease ensuring proper lubrication of the bearings all times.

## DRIVE

Main drive of the centrifuge is through electric motor, clutch pulley & V-Belt. Maximum power is required for starting of the rotation of the basket. During running very little power is required. The small amount of power is required only to overcome the turbulence caused by rotation inside the outer casing.

## TECHNICAL SPECIFICATION - " TOP DISCHARGE CENTRIFUGE "

MODEL	DIA. (mm)	BASKET DEPTH mm	SPEED RPM	VOLUME UNDER LIP in Lit.	H.P OF MOTOR	A	B	FLOOR SPACE mm x mm	G' VALUE	WEIGHT KG.
PBCTD - 12	300	250	1400	12	0.5	690	850	750 x 750	345	175
PBCTD - 20	500	300	1200	30	2.0	750	1060	800 x 800	400	325
PBCTD - 24	600	300	1100	55	3.0	825	1190	900 x 900	405	475
PBCTD - 30	750	350	1000	95	5.0	860	1460	1100 x 1100	415	750
PBCTD - 36	900	375	900	160	10.0	975	1635	1250 x 1250	405	1000
PBCTD - 40	1000	450	900	200	12.5	1050	1865	1400 x 1400	430	1100
PBCTD - 48	1200	500	800	310	15	1150	2185	1600 x 1600	420	1250
PBCTD - 60	1500	500	600	400	25	1225	2400	1900 x 1900	400	1600

SPECIFICATIONS AND DESIGN ARE SUBJECT TO CHANGE WITHOUT NOTICE FOR ANY ADDITIONAL IMPROVEMENT.

The power is transmitted to the V-belt by clutch pulley which ensures the required high starting torque which does not directly overload the motor. One part of the clutch pulley picks up the speed of motor rpm and other part of clutch pulley slowly picks up the speed.

When the full speed is achieved then there is no acceleration of the basket and hence no additional power is required, on the other side for stopping, a brake is provided to stop the rotation of the basket. This is operated by hand lever.

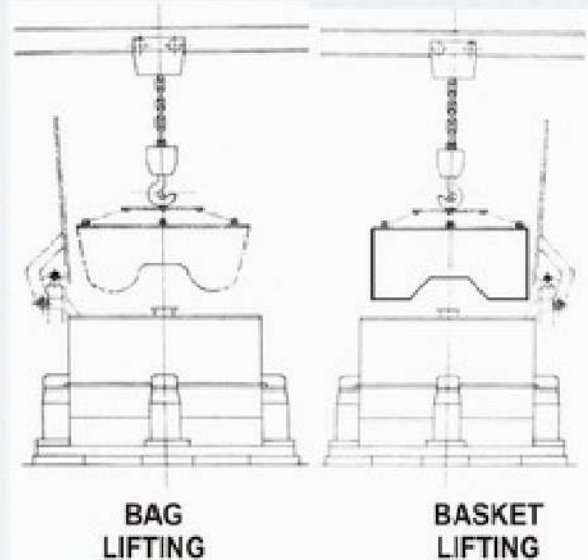
## QUICK BAG/BASKET LIFTING ARRANGEMENT (TOP DISCHARGE)

### ❖ BAG LIFTING

This facility was introduced for reducing the cycle time for (each batch of) centrifuging. The bag is located inside the basket & fixed to top cover of the basket. After centrifuging, top cover is lifted by suitable arrangement. The filter bag and the "DRIED" solid one also lifted along with the top cover. The "DRY" solid is discharged from the same bag & basket is immediately assembled into the machine for next batch. Otherwise laborious effort is to be put in for extraction of powder from centrifuge.

### ❖ BASKET LIFTING

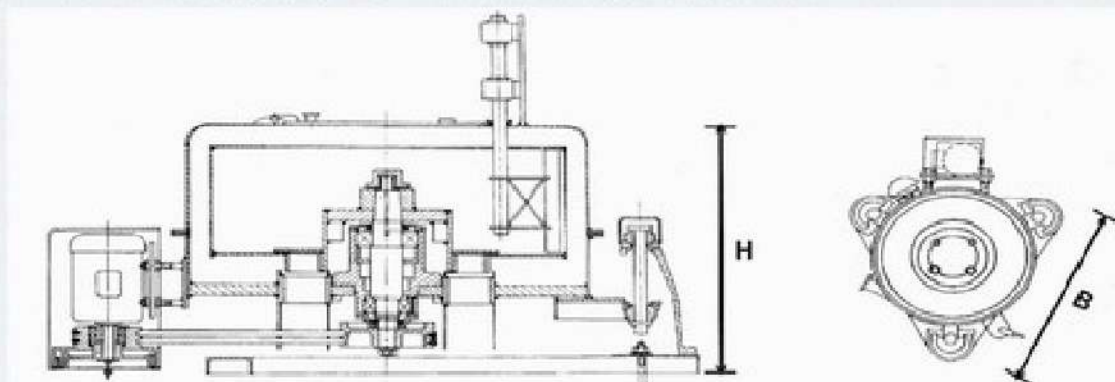
The BASKET LIFTING arrangement facilitates easy changeover of basket after every batch. This provides more batch in specified time slot, resulting more production with an addition of small investment for extra basket. Typical application is fat extractions. Centrifuge is supplied with steam jacket.



## BOTTOM DISCHARGE PREMIUM BASKET CENTRIFUGE

This equipment has two rotational speeds. The product slurry is fed at a lower speed. This method is followed to reduce imbalance on the basket. After feeding the speed of the basket is increased for speedy removal of liquid. After complete drying, the speed is again reduced and the powder is scrapped by a scrapper. The scrapper can be either of Hydraulic or Mechanical.

The scrapped material falls through the opening provided at the bottom of the basket and conveyed by suitable conveyor. A perforated sheet is installed inside the filter cloth to protect the same from the mechanical action of the scrapper. Filter cloth is kept between perforated basket & perforated sheet.

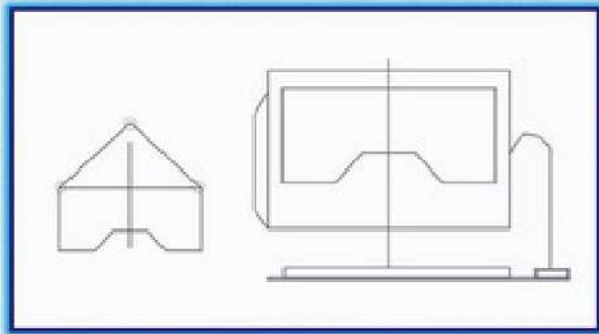


### TECHNICAL SPECIFICATION - "BOTTOM DISCHARGE CENTRIFUGE"

MODEL	DIA (mm)	BASKET DEPTH mm	SPEED RPM	VOL. UNDER LIP in Lit	H.P OF MAIN - MOTOR	B mm	H mm	FLOOR SPACE mm x mm	G' VALUE	WEIGHT KG.
PBCBD - 30	750	350	1000	130	5.0	1500	2100	1250 x 1250	415	825
PBCBD - 36	900	375	900	220	10.0	1700	2200	1400 x 1400	405	1100
PBCBD - 40	1000	450	900	275	12.5	1800	2300	1600 x 1600	430	1150
PBCBD - 48	1250	500	800	300	15.0	2000	2400	1900 x 1900	420	1300

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## SPECIAL APPLICATIONS



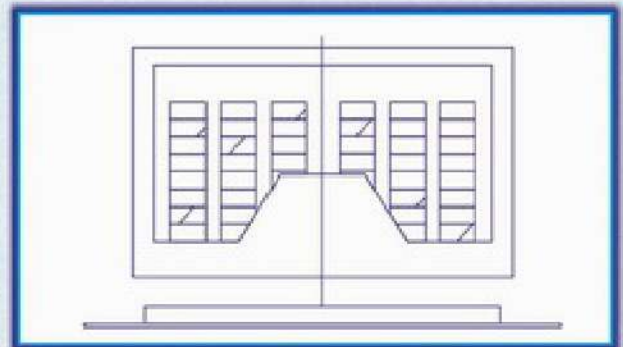
### BOBBIN DRYING

- THE EXCESS DYE FROM THE BOBBINS IS RECOVERED BY CENTRIFUGING.
- IN DYEING OF TEXTILE SPUN MATERIAL IN THE FORM OF BOBBINS IS DIPPED INTO DYE VATS.
- EXCESS WATER IS REMOVED FROM BOBIN FOR EASY & FAST DRYING.



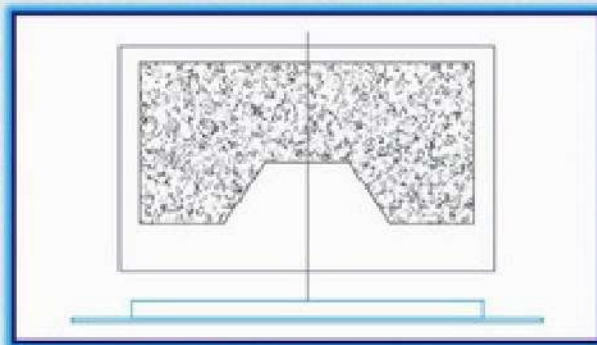
### FAT EXTRACTION

- STEAM JACKET IS PROVIDED FOR MAINTAINING THE REQUIRED TEMPERATURE INSIDE THE BASKET
- BASKET LIFTING FOR EASY REMOVAL OF MASS.
- EXTRA BASKET IS PROVIDED FOR SPEEDY & EASY CHANGEVER.



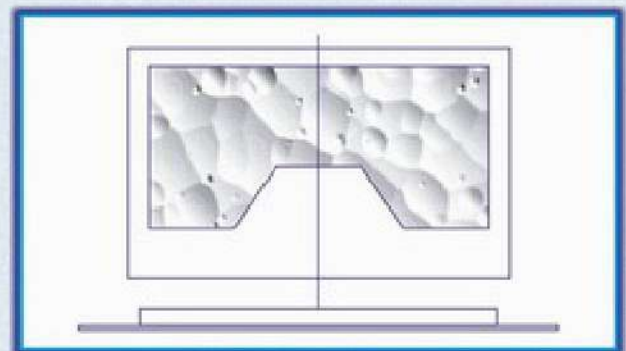
### METAL CHIPS OIL EXTRACTION

- CUTTING OIL IS USED DURING MACHINING. SUBSTANTIAL AMOUNT OF OIL IS LOST ALONG WITH CHIPS. BY CENTRIFUGING THE OIL IS RECOVERED.
- THE CHIPS FETCH BETTER PRICE WHEN SOLD AS SCRAP.



### VEGETABLES / MUSHROOMS

- SOME VEGETABLE & MUSHROOMS PICK UP MOISTURE WHILE WASHING.
- THE EXCESS WATER CAN BE ELIMINATED BY CENTRIFUGING.



**SINCE**  
**1985**

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