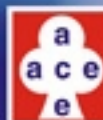


# **ACE cGMP DOME OPEN BOTTOM DISCHARGE FOUR POINT CENTRIFUGE.**



- ✓ **TEFLON SWEEPER FOR CAKE DISCHARGE THROUGH SINGLE OPENING.**
- ✓ **HYDRAULIC SCRAPER FOR STICKY CAKE.**
- ✓ **CAKE DISCHARGE UNDER NITROGEN BLANKETING.**
- ✓ **HEAL REMOVAL SYSTEM**
- ✓ **EFFICIENT FILTER CLOTH ARRANGEMENT**
- ✓ **AUTOMATION AT PAR WITH PLC WITH RECEIPE SETTING**



**ACE INDUSTRIES**

(AMIT CHEMICALS & ENGINEERING INDUSTRIES)

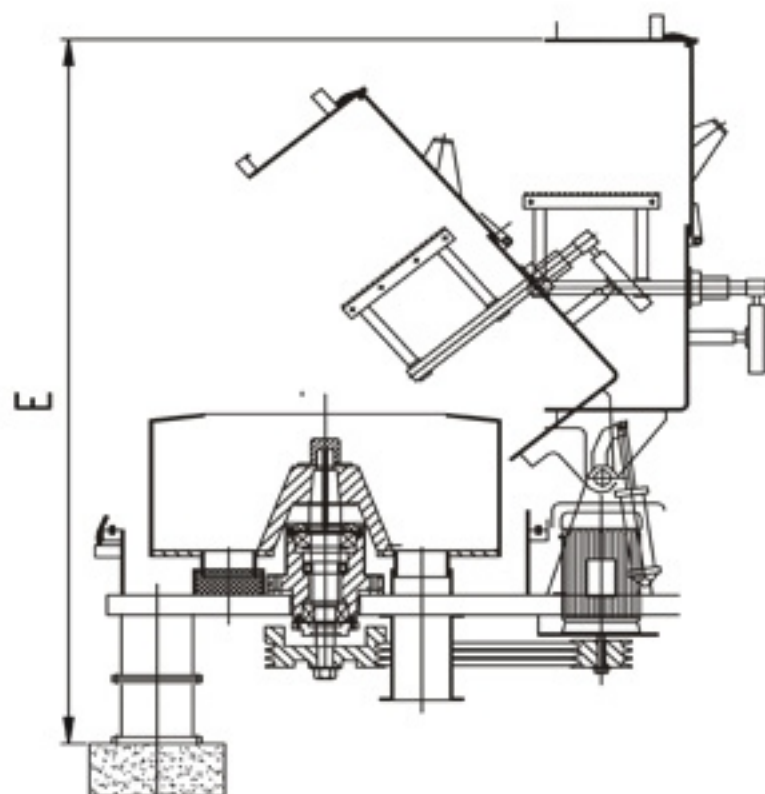
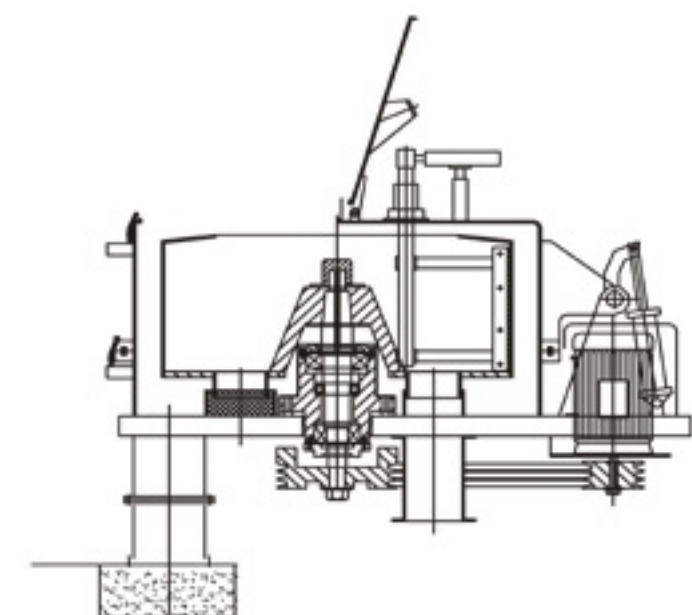
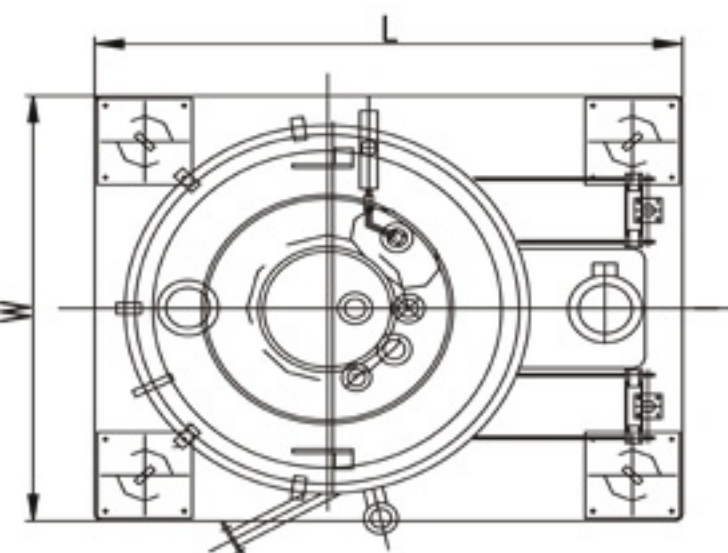


## BOTTOM DISCHARGE CENTRIFUGE WITH DOME OPENING

The Pharma and the Fine chemicals Manufacturing sectors have to face the challenge of impurities below PPM ( parts per million) levels. The clean centrifuge is must with every new batch.

Ace offers full dome opening machines in its entire range of basket sizes.

The simplicity of the Bottom Discharge arrangement is also taken care of . The Single-point Cake Discharge with Teflon Sweepers, the heel removal, the hydraulic scrapper , the cake sensor, the zero speed interlock, the safety switches, The Anti Vibration Tripper, the cGMP version are all a part of the ACE bottom discharge centrifuge. The dimensions of the machine and the HEADROOM for basket sizes 24" dia to 72" dia are given below:



## TECHNICAL DATA

MOTOR H.P.	BASKET SIZE	G FORCE	RPM	MOUTH I.D.(MM)	BASKET CAPACITY		FILTER AREA SQ.MTR	FLOOR AREA		HEAD ROOM (MM)
					VOL (LT)	WT(KG)		W (MM)	L(MM)	
3	24" X 12"	505	1220	450	45	55	0.623	1000	1650	1650
5	30" X 13"	510	1100	550	70	85	0.776	1250	2000	2000
7.5	36" X 18"	511	1000	650	140	170	1.329	1750	2500	2500
15	48" X 20"	430	800	850	300	360	1.899	2350	2850	2850
30	60" X 24"	310	600	1000	600	720	2.940	2750	3250	3250
50	72" X 30"	310	255	1260	1000	1200	4.320	3250	3750	3750

## THE PROCESS:



### a) Feeding:

The slurry has to be charged through the feed pipe. The cake develops uniformly inside the basket. The basket speed is almost half of the full speed. Care is taken with feed valve to control the flow rate of feed to ensure complete filtrate discharge.

### b) Cake Sensor:

The cake sensor gives the indication of cake filling up to the basket rim. The feed must be stopped if hooter sound of cake sensor is heard.

### c) Washing:

The cake should be washed free from impurities at a little higher speed than the feed speed. When wash discharge is free from impurities, the basket speed is raised to the maximum. The drying of cake is maximum.

### d) Dynamic Braking:

It is achieved by pressing of the STOP button of the control panel. The basket comes to a stand still within 200 seconds.

### e) The Scrapping:

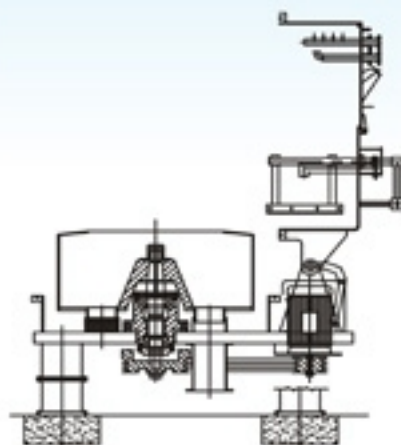
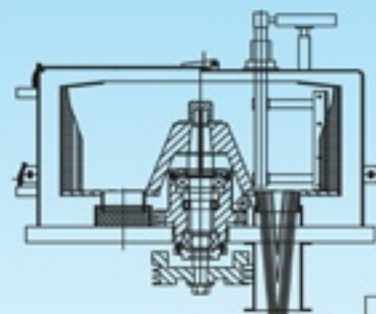
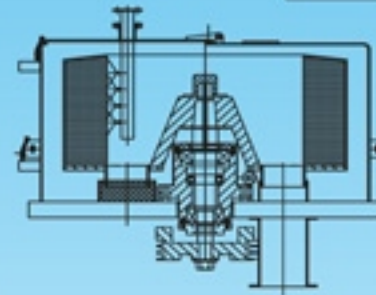
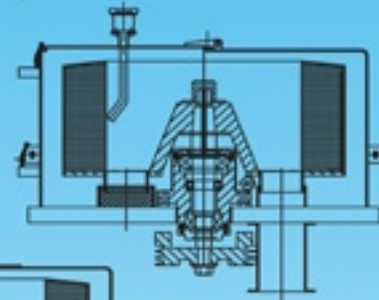
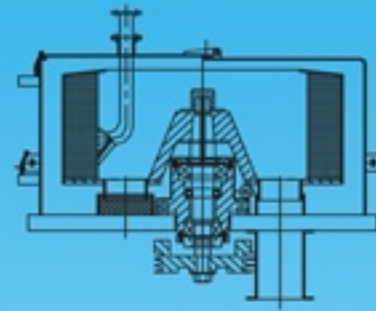
The basket is run at a minimum possible speed. The hydraulic power pack is switched on. The scrapper is rotated around the scrapper shaft. The cake is cut and discharged through single opening below the body. The scrapping takes about 30 minutes.

### f) Heel Removal:

The gas pressure is applied on the jet nozzles provided outside the basket. The basket is run at SLOW SPEED with scrapper in cut position. The jet pressure dislodges the last layer of cake.

### g) Dome Opening:

The Scrapper is taken back to neutral position. The dynamic brake is applied to bring basket to stand still. The dome LBD locks are released. The dome is opened with HYDRAULIC Power pack lever. The cleaning of the body is easily done.



## AUTOMATION OF BOTTOM DISCHARGE CENTRIFUGE

The A.P.I. production and schedule 'M' drugs limitations requires time based production with necessary process steps. The dependance of production on human beings may spoil the quality of production.

ACE has thoroughly studied all the process steps of bottom discharge centrifuge. The total control of the machine is done electronically.

Use of V.F.D. coupled with P.L.C. has opened the gateway of automation. Our fip control system has been incorporated with HMI/MMI. The user can easily get the following time based benefits with our FLAME-PROOF control panel.



### INPUTS ( Time based )

FEEDING SPEED  
WASHING SPEED  
SPINNING SPEED  
BRAKING TIME  
SCRAPPING SPEED  
CAKE SENSOR  
LIMIT SWITCHES LID & DOME  
VIBRATION TRIPPER

### OUTPUTS ( Operation based )

FEED VALVE  
WASH VALVE  
M.L. TANK VALVE  
SCRAPPER OPERATION  
CAKE OUTLET VALVE  
NITROGEN BLANKETING VALVE  
ZERO SPEED INTERLOCK  
OVERLOAD TRIP

Batch-wise recordings of individual steps with respect to DATE/TIME/BATCH NO is stored in the system. The print out is available as and when required. THE TOTAL CYCLIC OPERATION CAN BE DIFFERENT FOR DIFFERENT PRODUCTS. THE CONTROL OF THE EQUIPMENT CAN BE MANAGED FROM A PARTICULAR DESK TOP COMPUTER.

Manufactured and Marketed by:



ASSOC. CO's: MAK INDUSTRIES, AIM INDUSTRIES AND ACE CHLORIDE

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