



# Sunsai Pharma

Equipments Pvt. Ltd.

2006 - 2022



**Sunsai Pharma**

*The Best Lifeline of Pharma Industry*

**An ISO 9001:2015 & GMP Certified Organization**





**Managing Director  
Mr. Meghan Hemant Bhatte**



**Factory**



**Office**



**R & D Lab**



# COMPANY PROFILE

Sunsai Pharma Equipment Pvt Ltd, was established in 2005, by Mr Meghan Bhatte. He is an experienced engineer /Technocrat having 35 years of experience of designing, manufacturing and supply. He has passion for Development, Innovation and doing research for new applications in Pharma processing machines such as Oral Solid Dosage Formulation, Advanced Tablet coating Machines, Liquid Syrup making machines Pellet Making and Automatic Ointment production plants from lab scale 1 kg to high capacity to production scale up to 1000 kg. Material handling and transfer systems with minimum human involvement. Company has a facility to conduct process trials for customers to validate their process and the machines. In some cases Our lab facilities were even rented on a long term basis to stabilize process parameters by conducting exhaustive trials with their products . It was helpful to build the customer base in the initial stage. Thus we could build a large customer base, their confidence and trust built strong relationships. Today the company has a vast customer bank enjoying full customer support service. Progressively the company has developed many new machines with improved technology. Process automation was developed rapidly to qualify machines as per latest regulatory standards. Sunsai offers single window service for all product lines. Sunsai products are FDA, CE, EU qualifiable

Sunsai has a workshop facility of about 20,000 square feet production area at Valiv Phata Sativali Road, Vasai. Company has a strength of around 70 persons involving qualified and experienced mechanical, electrical and electronic engineers committed to offer presales and post sales support service to all customers. Online FAT by video call is regularly offered.

Installation and commissioning on line support by service engineers. Company is committed to continuous upgradation and quality enhancement of products. the prime goal of the company. Satisfied customers are the true assets of the company. We are proud to be a part of the progress of the Pharmaceutical Industry in India and Abroad.

Core team of Sunsai has total 35 years of experience in design, development and production of Pharma machines.





# GRANULATION EQUIPMENTS



**Rapid Mixer Granulator:** Rapid Mixer and Granulator with specially designed high shear chopper blades for efficient dry mixing and wet granulation in one Bowl System with cGMP compliance.

R&D Models:-11tr,2ltr,3ltrs,5ltrs,10ltrs,15Ltr,Production Models:-30ltrs,60ltrs,150ltrs,250ltrs,400ltrs,600ltrs,800ltrs,1200ltrs,1600ltrs



**Sunmill Wet:** The SUNMILL WET is a conical screen mill. A high speed rotating impeller forces the product through the perforation of fixed cone shaped screen to reduce particle size. GMP compliance with low heat, low dust and low noise.

R&D Models:-SMW500

Production Models:-SMW 1000 & SMW 2000



**Fluid Bed Dryer:** The System is based on Air suspension technology with cGMP compliance. The SFBD is used for Drying of powders and Granules (Capable of being fluidised) by fluidising the min the expansion chambers with Filtered and heated air.

R&D Models:-Mini FBD 500gms,1kg,5kg.

Production Models:-10kg,30kg,60kg,120kg,250kg,500kg.



**Sunmill Dry:** The SUNMILL DRY is a conical screen mill. A high speed rotating impeller forces the product through the perforation of fixed cone shaped screen to reduce size. GMP compliance with low heat, low dust and low noise.

R&D Models:-Sunmill R&D

Production Models: Sunmill SM-100, Sunmill SM-200, Sunmill SM-300



**Vibro Sifter:** The Vibro sifter works on Gyrotory principle. Gyro motor gives horizontal, vertical and tangential component of vibration due to which material is spread over the screen and starts rotating throughout the periphery.

R&D Models:-12"(300mm)

Production Models-20"(500mm),24"(600mm),30"(750mm),36"(900mm),48"(1200mm).



**Blender:** The Blender is simple machine to blend a dry powder and / granules etc. The geometry of blender with the baffle fitted inside the blender makes the system perfect to achieve homogeneous mix in reasonable time.

R&D Models:- 5 Ltr, 10Ltr, 20 Ltr, 30 Ltr.

Production Models- 50 Ltr, 100 Ltr, 200 Ltr, 300 Ltr, 500 Ltr, 1000 Ltr, 1500 Ltr, 2000 Ltr, 3000 Ltr, 5000 Ltr.



**Advance coater:** SUNCOATER is an automated tablet coating system for efficient film and/or sugar coating of tablets with cGMP compliance in closed condition. During the coating process, coating fluids are sprayed through Air atomizing spraygun. The coated tablets are dried with filtered, heated and dehumidified air to produce uniformly coated tablets.

R&D Models:-500grams to 5kg-(9",12",15", 18")

Production Models:-10kg to 600kg (24",30",36", 48", 60",66").





## PELLETISATION EQUIPMENTS



**Rapid Mixer Granulator:** Rapid Mixer and Granulator with specially designed high shear chopper blades for efficient dry mixing and wet granulation in one Bowl System with cGMP compliance.

R&D Models:-11tr,2ltr,3ltrs,5ltrs,10ltrs,15Lire,ProductionModels:-30ltrs,60ltrs,150ltrs,250ltrs,400ltrs,600ltrs,800ltrs,1200ltrs,1600ltrs



**Extruder:** The Extruder is a self-contained compact machine for special purpose of making Pellets. Raw material is introduced axially from the feed hopper into rotor housing where it is exposed to rotating screw which conveys the material towards rotor end. Rotor forces the material to pass through the mesh with the effect of scraping impact resulting in formation of cylindrical extrudes.

R&D Model- Single screw EXT-20 EXT-30 EXT-60  
Production Models: Twin Screw TSEXT-100, TSEXT-130



**Spheroniser:** The Spheroniser is a self-contained compact machine for the special purpose of making Pellets, The extrudes are dropped from the feed hopper into the spheroniser to get exposed to rotating checker plate and to get sized. Further exposure to the surface of checker plate results in conversion of the extrudes into the shape of spheres i.e. pellets.

R&D model- SPH75, SPH150, SPH250.  
Production Models: SPH500, SPH700.



**Tray Dryer:** The Tray Dryer is a drying equipment developed for drying pellets granules, powders. The design and geometry of the tray drier ensures that the moisture content of the product is removed in minimum time.

R&D Models:-TD4,TD6,TD8 ,TD12.  
Production Models:-TD24,TD48,TD96,TD200.



**Vibro Sifter:** The Vibro sifter works on Gyro principle. Gyro motor gives horizontal, vertical and tangential component of vibration due to which material is spread over the screen and starts rotating throughout the periphery.

R&D Models:-12"(300mm)  
Production Models-20"(500mm),24"(600mm),30"(750mm),36"(900mm),48"(1200mm).



**Fluid Bed Coater:** The System is based on Air suspension technology with cGMP compliance. The SFBC is used for bottom spray coating and drying of Pellets (Capable of being fluidised) by fluidising them in the expansion chambers with Filtered and heated air.

R&D model-1kg,5kgs,10kgs.  
Production Models:-30kgs,60kgs,120kgs,200kgs,300kgs.



**Coating Pan:** The system is used to coat Tablets and/ or particles 2-3 mm with the coating ingredients this equipment is provided with ellipsoidal shape bowl with baffles attached inside to achieve uniform and homogeneous coating.

R&D Models: SCP9", SCP12".  
Production Models:- SCP12", SCP24", SCP30", SCP36" SCP48", SCP60".



## Lab Models

Model	Working Capacity
SRMG-1	100-300 Grm.
SRMG-2	100-500 Grm.
SRMG-3	500 Grm.- 1Kg.
SRMG-5	1-1.5 Kgs
SRMG-10	2-3 Kgs.
SRMG-15	3-5 Kgs.

### Inter Changeable Models

SRMG-1 to 5  
SRMG-5 to 15

## Production Models

Model	Working Capacity
SRMG-30	7-10 Kgs
SRMG-60	15-20 Kgs.
SRMG-150	40-50 Kgs.
SRMG-250	60-75 Kgs.
SRMG-400	100-120 Kgs.
SRMG-600	150-200 Kgs.
SRMG-800	200-250 Kgs.
SRMG-1200	350-400 Kgs.
SRMG-1600	450-500 Kgs.



# Rapid Mixer Granulator

The RMG is a batch type Mixer cum Granulator wherein, a sub-lot containing suitable ingredients is charged into process bowl. Initially, excipients are dry blended and then binder

paste solution is administered to charged excipients.

Particles movement creating by rotation the impeller blade mixes homogeneously. The flat bottomed and truncated conical top, process bowl aids in creating spiral flow pattern that continuously cause cohesive material to provide uniform mixing.

Impeller blade effects tangential movements of raw material for uniform material accumulation on bowl wall as well as producing wet granules.

Strategically, mounted chopper provides additional shear for de-lumping the material while further enhancing the binder material distributions within the product mass.

Run the machine till the desired results in achieved resultant product, when drawn from granulation process will be uniform wet granules. Emptying the bowl is normally done through pneumatic side discharge valve.

*Special Design of '1' Blade Impeller & Knife Type Design of High Speed Chopper Blade*

**Advance power processing technology –**  
'Z' blade impeller is located at the base of the processing chamber where it impacts energy to the material. As material moves on a spiral motion within the chamber the especially design bowl geometry is design to act in concert with the impeller blade to product and optimize material flow pattern.

The Knife type chopper blade design is very special. The shape of the Blade will produce a very highly cutting action. The chopper blade assembly is mounted on wall of processing chamber to apply additional shear, evenly distributing the liquid binder and breaking up any oversized agglomerates.

## SUNSAI'S Rapid Mixer Granulator

### Special Features

RMG Angle of Cone

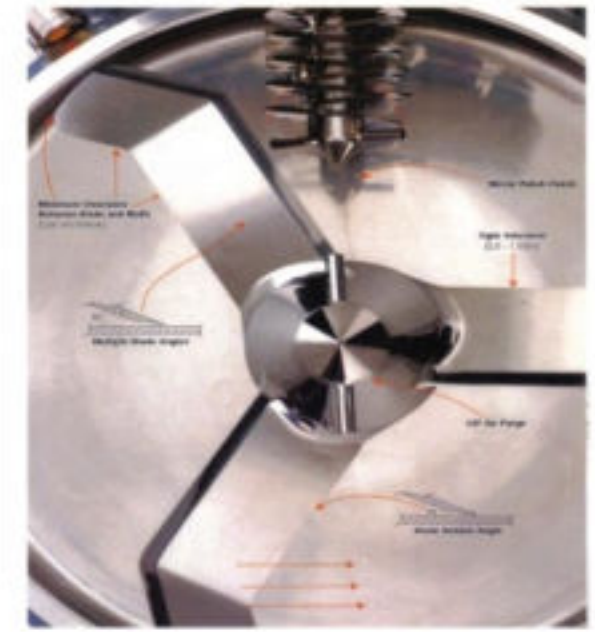
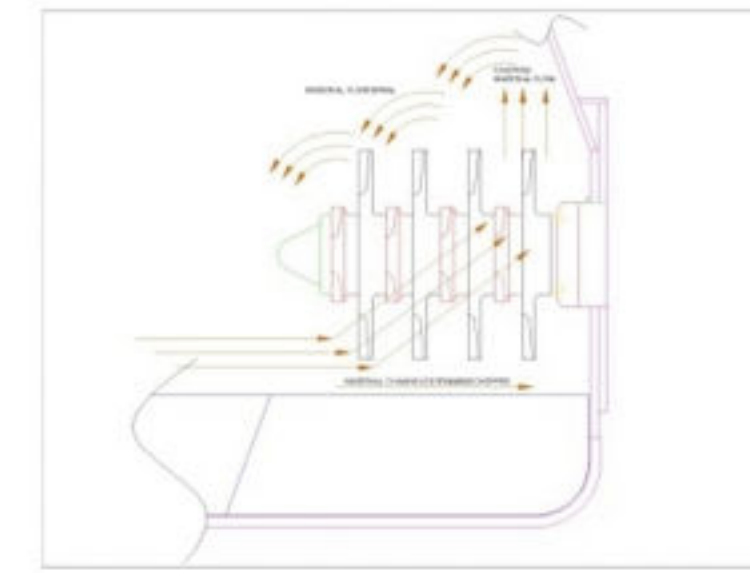
RMG is specially Designed "Z" Type Impeller

High shear Knife Type Chopper blades

Efficient Dry Mixing & wet Granulation and Most IMP

No Wastage of Material

TIME SAVING



Chopper blade



Impeller blade





**FBD-500gms**



**FBD-1 KG**



**FBD-500gms**



**FBD-RnD 5 KG**

## LAB MODELS

Sr. No.	SFBD Model Ltrs	Output
1	Fluid Bed Dryer 500 Gms	Min 150 to Max 500 Gms
2	Fluid Bed Dryer 1 Kg	Min 500 to Max 1 Kgs
3	Fluid Bed Dryer 3 Kgs	Min 1 to Max 3 Kgs
4	Fluid Bed Dryer 5 Kgs	Min 3 to Max 5 Kgs
5	Fluid Bed Dryer 10 Kgs	Min 6 to Max 10 Kgs

## PRODUCTION MODELS

Sr. No.	SFBD Model Ltrs	Output
1	Fluid Bed Dryer 20 Kgs	Min 15 to Max 20 Kgs
2	Fluid Bed Dryer 30 Kgs	Min 20 to Max 30 Kgs
3	Fluid Bed Dryer 60 Kgs	Min 50 to Max 60 Kgs
4	Fluid Bed Dryer 120 Kgs	Min 100 to Max 120 Kgs
5	Fluid Bed Dryer 200 Kgs	Min 150 to Max 200 Kgs
6	Fluid Bed Dryer 250 Kgs	Min 200 to Max 250 Kgs
7	Fluid Bed Dryer 300 Kgs	Min 250 to Max 300 Kgs
8	Fluid Bed Dryer 350 Kgs	Min 300 to Max 350 Kgs
9	Fluid Bed Dryer 500 Kgs	Min 400 to Max 500 Kgs



# FLUID BED DRYER

The SFBD is used for Drying of wet powders and granules (Capable of being fluidised) with cGMP compliance. The System is based on Air suspension technology. The main unit consists of the following

- a) Air inlet chambers plenum
- b) Process containers equipped with sandwich plate construction.
- c) Expansion chamber cum Filtration chamber.

Wet Powders /Granules to be processed are filled the process bowl. Substrates are fluidised dried in expansion chambers with heated air supplied through filters of 10 micron and 5 micron & 0.3 HEPA. During fluidisation process the filter bag may be shacked to ensure non-adherence of fines generated from process. Exhaust blower evacuates fluidising air through suspended substrates.





## Total Solution for Your Granulation Process Sunsai WallMounting close transfer Granulation System

A System consists of Rapid mixer Granulator with high efficient 'Z' type main Impeller and 'Knife Type' chopper blades. After wet granulation process the Material will be release by pneumatic operated discharge of RMG.

Which will have inbuilt wet sunmill at the bottom for Particle sizing of the material for fasterDrying process in FBD and it will be directly attached to the Fluid Bed Dryer.

The collected material in FBD bowl will be dried efficiently in Fluid Bed Drying Process. After completion of drying process the material will be directly, fall down in to the Blender through valve which will mount in-between FBD and Blender.

So now our blender is ready to blend the received material in a very efficiently and completion of blending material will be automatically discharge. The whole system will be operated through a single control panel system.

Working Capacity

Wall Mounting - 1-2 Kg

Wall Mounting - 3-5 Kgs

Wall Mounting - 10-20 Kgs

Wall Mounting - 30-60 Kgs

### 10Kg RnD line with vaccum transfer system complete integrated granulation line

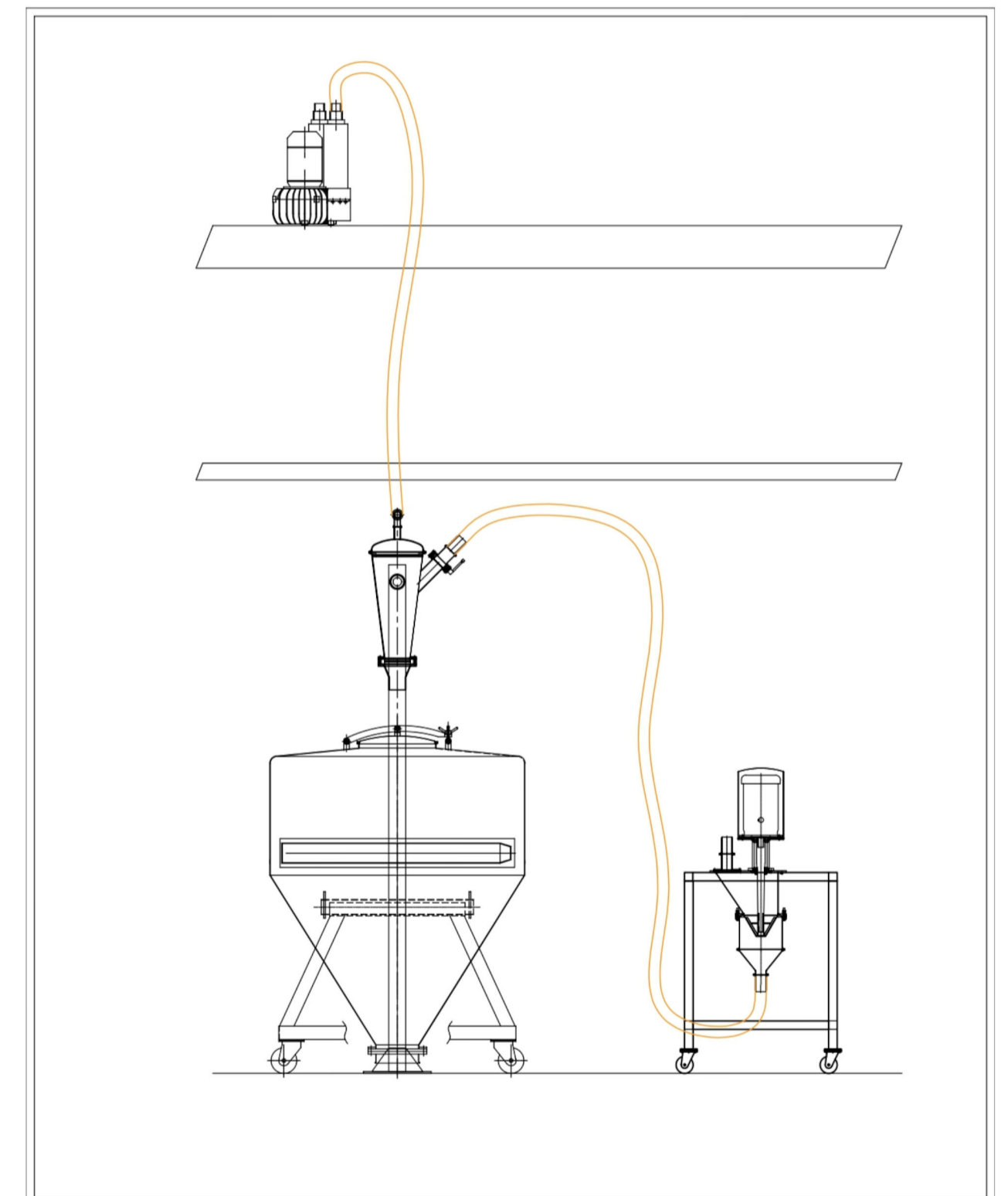




## Vaccum Transfer System (Powder Conveyor System)

### Application areas of the Sunsai Conveyer

- For working in a dust- and/orcontamination-free environment.
- If the product needs to be conveyed under exclusion of oxygen (insert).
- For transporting toxic, moist and other products with critical and difficult material properties.
- Containers can be charged in low- or high-pressure atmosphere.
- In areas with highest requirements on cleanliness and hygiene.
  
- **Our core competency has been charging the powders in closed and contained manner in solvent atmosphere without exposure or without static generation in most reliable way.**
  
- We have been charging the powders into reactors with solvent atmosphere and at temperature & pressure in most safe way. We can also dose the powder at required intervals or continuously at the required capacity / speed.
- The system has been designed to handle the powder which has high static charging nature or low flow ability.
- We have been successful in charging the reactor without addition of oxygen even when charging the powder from open drum / bag etc.
- SCS system is well suitable to handle highly hygroscopic powders.
- PLC based panel are also available based on your requirements.



### Vaccum Transfer System



## SUNCOATER / AUTO COATER (STANDARD)

SUNCOATER is table coating system for efficient film coating of tablet cores with cGMP compliance in closed condition. The main Pan unit consist of a cylindrical perforated pan with conical ends in a SS double-walled enclosure. During the coating process, coating fluids are sprayed (film coating) through multiple Air borne Spray Gun (s) mounted with in the pan. A peristaltic Pump is employed for precise delivery of coating fluids. The tablet bed is gently and efficiently mixed during pan rotation with the aid of mixing baffles attached internally, with a pan. The coated tablets are dried with heated, dehumidified air supplied from an Inlet AHU-which contains a Heating system as well as filtration system of 10 micron, 5 micron and 0.3 micron HEPA Filters. As a result, applied coating is dried with non-contaminated, dust free and optimized volumes of air, for producing uniformly coated tablets.



**Standard Coater**



**RnD Model**

Model	Working Capacity
Suncoater-150	100-250 Grm.
Suncoater-225	300-500 Grm.
Suncoater-300	500 Grm.-1 Kg.
Suncoater-375	2-3 Kgs.
Suncoater-450	4-5 Kgs.
Suncoater-600	8-10 Kgs.
Suncoater-750	20-30 Kgs.
Suncoater-900	30-50 Kgs.
Suncoater-1200	120-150 Kgs.
Suncoater-1500	250-300 Kgs.
Suncoater-1700	400-500 Kgs.



## **ADVANCE SUNCOATER (Tablet Coating) with INTERCHANGABLE PAN FACILITY**



**ADVANCE SUNCOATER**

- ✓ VERY HIGH EFFICIENT COATING
- ✓ TOTALLY LEAK PROOF INFLATABLE SEALING DOOR
- ✓ NO AIR LOSS
- ✓ NO HEAT LOSS
- ✓ ALL 3 MAIN DOORS ON HINGE NO BOLTING REQUIRED
- ✓ HUGE FRONT DOOR OPENING
- ✓ INSTANT INTERCHANGEABLE PAN FACILITY
- ✓ NO TOOLS REQUIRED FOR PAN REMOVAL AND INSTALLATION
- ✓ PAN REMOVAL ON TROLLEY WITHIN TWO MINTUES
- ✓ A VERY SPECIAL CROSS OVERTYPE DESIGN BAFFLES WITH ANTI-SLIDING CROSS BAFFLES.
- ✓ BAFFLE DESIGN IS FORCING THE TABLET TO FOCUS EACH  
& EVERY TIME IN FRONT OF SPARY GUNS.
- ✓ SPRAY GUN/ASSLY/DISTANCE/ ANGLE / SPRAY PATTERN CAN BE ADJUSTED THROUGH PLC.
- ✓ ANIMATED PLC BASE PROGRAMS.
- ✓ SET YOUR 2nd BATCH WITH IN 5 MINTUES.
- ✓ ALL ABOVE SPECIAL ADVANTAGES WILL HELP YOU TO DOUBLE  
THE PRODUCTION OUTPUT IN MINIMUM TIME & LESS MANPOWER







**Conical Mesh**

**Dome Mesh**



**Flat Screen**



**Radial Screen**



**Checker Plate**



**Pellets**



**Extruder**

Model	Working Capacity
EXT-20	50-100 Grm.
EXT-30	100-500 Grm.
EXT-60	2-3 Kgs.
TSEXT-100	30-50 Kgs
TSEXT-130	75-100 Kgs.



**Spheroniser**

Model	Working Capacity
SPH-75	25-50 Grm.
SPH-150	50-100 Grm.
SPH-250	1-2 Kgs.
SPH-500	15-25 Kgs
SPH-700	40-50 Kgs.



**R n D Lab Models**

**Fully Automatic Integrated System**

TSEXT - 100 : 1 No. with SPH - 500 : 2 Nos.  
TSEXT - 130 : 1 No. with SPH - 700 : 2 Nos.



# Extruder - Spheroniser

The Extruder-Spheronisation process is commonly used in the pharmaceutical industry to make uniformly sized spheroids. It is especially useful for making dense granules for sustained controlled-release solid dosage oral forms with a minimum amount of excipients.

Extruder is a first step in the extruder-spheronisation process. The size of the extruder screen aperture will dictate the approximate size of the resulting spheroids. However, extruder is often used to eliminate dust in formulations even when spheronisation is not the final objective.

Spheronisation has many advantages & the process is useful in several ways: it can improve the product; simplify manufacturing processes and help to reduce costs. The process is well known and widely used in the pharmaceutical industry but spheronisation is becoming increasingly recognized in other areas of industrial materials handling. The size of the spheres are determined by the diameter of the extrudes used for the spheronisation process. The most common groove pattern used for spheroniser discs is the square cross-hatched square design, where the processing surface is covered with a grid of truncated pyramids.







SFBP - 1.5 Kg



R&D- FBP- 1kg



## LAB MODEL PROCESSOR (WRUSTER COATER)

Model	Working Capacity	No. of Wurster
SFBP - 1	700 Grm.-1 Kg.	1 No.
SFBP - 5	3-5 Kgs.	1 No.
SFBP - 10	6-10 Kgs.	1 No.

## PRODUCTION MODEL

Model	Working Capacity	No. of Wurster
SFBP - 30	20-30 Kgs.	1 No.
SFBP - 60	50-60 Kgs.	1 No.
SFBP - 120	100-120 Kgs.	1 No.
SFBP - 200	150-200 Kgs.	3 Nos.
SFBP - 300	250-300 Kgs.	3 Nos.
SFBP - 500	400-500 Kgs.	5 Nos.



## FLUID BED PROCESSOR / COATER

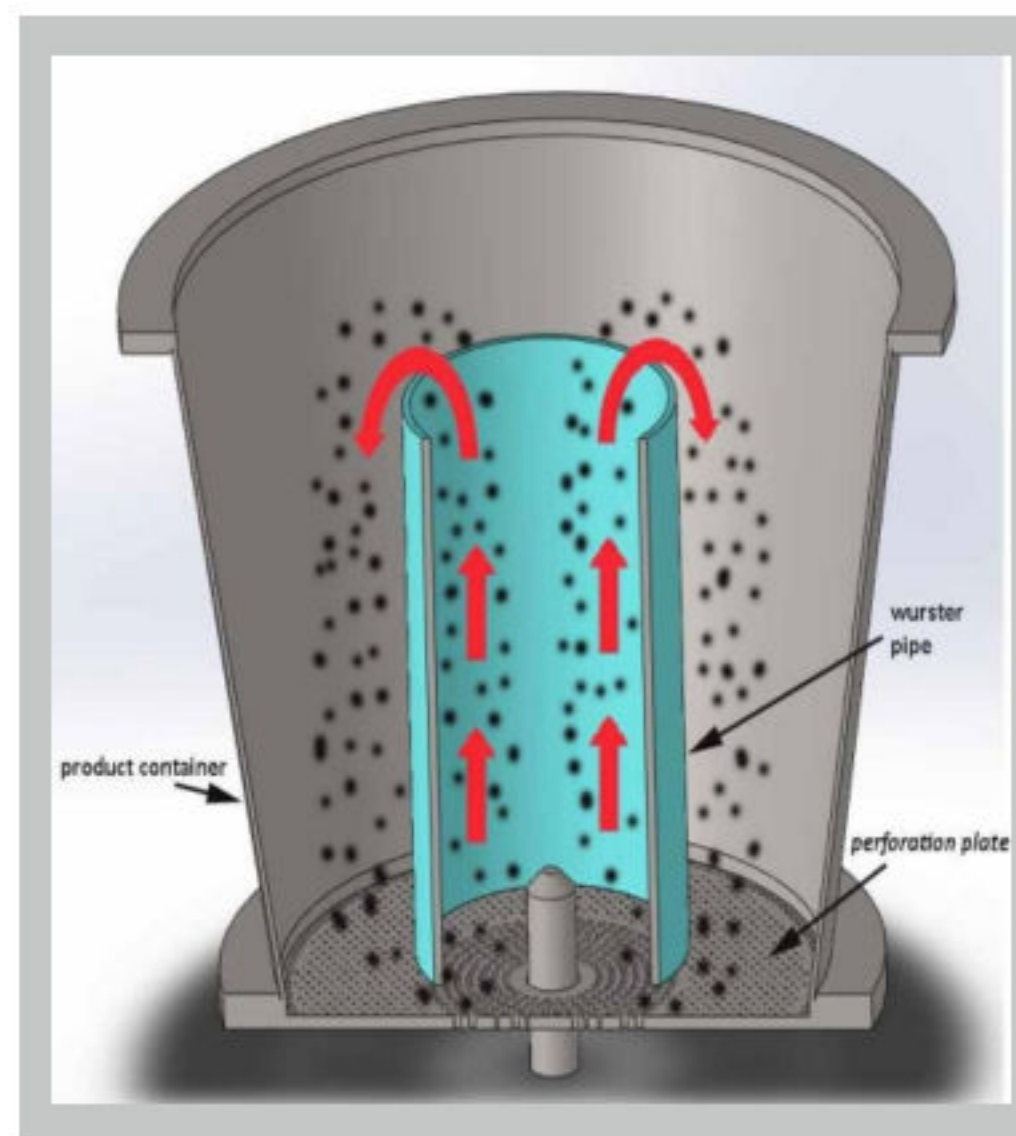
The SFBP is line of multi- purpose fluid bed processor designed to accomodate drying, granulation, coating operations all in one piece of equipment.

In addition a variety of options is available for material handling, control systems, clean-in-place and exhaust filtration.

Thus the SFBP provides the ultimate in terms of both processing performance and flexibility  
Multi functional fluid beds.



**FBC 120 Kg**



**WursterTechnology**



**FBC 300 Kg**



## Ointment / Cream Manufacturing Plant



Main processing vessel capacities ranging from 100L to 2000L.

System includes:-

- Main (Manufacturing) Processing vessel.
- Vacuum rated top entry homogenizer load cell facility for process control.
- Wax(Oil) phase Vessel and water phase vessels, with Agitator and Heating arrangement.
- Batch storage vessel.
- Transfer pump & recirculation pump.
- Vacuum transfer system for wax & water to manufacture vessel.
- Vacuum pump for main vessel.
- Metering pump.

- Working platform with ladder and railing and interconnecting pipeline and valves with T.C. fittings.
- All product contact parts SS316 and Non contact parts SS304.
- Load cell facility for process control.
- Plant suitable for all types of cream, loations, ointments, gels, tooth paste and other personal care products.
- Plant GMP qualified.
- Auto control of process by PLC system.



# LIQUID MANUFACTURING PLANT

Automatic and semi automatic system

Capacity ranging from 500L to 20,000L capacity main processing vessel.

Consisting of :-

- Sugar Melting Vessel.
- Sugar Solution Filtration system.
- Main Manufacturing (Processing Vessel).
- Top Entry or Bottom Entry agitator for solution Mixing.
- Recirculation facility with Inline homogeniser and online sampling system.
- Heating and cooling arrangement by steam or electrical heating temperature control system.
- Vacuum transfer system for sugar changing.
- Transfer pump.
- Metering pump optional.
- Horizontal Plate Filler suitable capacity.
- Product storage vessel interphase (connected) to bottle filling machine.
- PLC based Process Control System with data logging facility.







# Sales & Marketing

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