



swarnim
— TECHNOCRATS —



- **Pharmaceuticals**
- **Nutraceuticals**
- **Chemicals**
- **Cosmetics**
- **Food**



COMPANY PROFILE

Established in 2017; SWARNIM TECHNOCRATS is an ISO:9001:2015 & ISO:45001:2018 certified manufacturer, consultant & exporter of Process Equipments for Pharmaceutical, Nutraceutical, Cosmetics, Food, Chemical & Agro – Chemical Industries. Within this short span we have excelled in this niche market through consistently offering world class products.

Since inception; we have been renowned for designing and manufacturing of equipment that Innovates, Automates & Integrates various processing systems and machines. Our Technical Expertise, Technocratic Approach and Stringent Quality Control ensures that we adhere to the current Good Manufacturing Practices (cGMP) and International Standards as well as provide effective and prompt after sales services.

We have committed ourselves to constantly Innovate, Design & Develop products that meets the changing demands and requirements of the Industry. With our commitment to Innovation & Quality; we have achieved consistent progress year on year.

We have two state of the art Manufacturing Facility in the Industrial Estate of Ankleshwar, Gujarat, India. The Estate is well connected with all the major cities and ports in the western region of India.



VISION

Our Vision is to be a world renowned engineering company leading in Innovation and providing integrated solutions to Pharmaceutical and Allied Industries; with a customer centric approach and service excellence.

MISSION

Our Mission is to produce best quality products and process machines and to constantly innovate the products in a way that can assist and enhance the production capabilities of our clients.

GRANULATION LINE

RAPID MIXER GRANULATOR / HIGH SHEAR MIXER GRANULATOR

The High Shear Mixer Granulator is designed to meet special needs of tablet formulation technology. This is achieved by reducing processing time, homogeneous mixing, even distribution of binder, wetting, nucleation and granule size growth with sampling provision for in process analysis and proven safety during processing, compliant to cGMP norms.

Features:

- Mixing, massing and granulation are all performed within a few minutes in the same piece of equipment.
- Mixing & granulating in single bowl with short batch time and residue free discharge.
- Unique Design with three arm mixing impeller with Chopper Blade to cut Lumps and make granules.
- Optional Features: VFD for mixing & granulating, Inline Milling, Bowl Jacket for heating & cooling, Vacuumised process, Binder Spray System, FLP motor & PLC Controls.

Range:

Model	Gross Capacity(L)	Working Capacity (L)	Main Motor (HP)	Chopper Motor (HP)
ST/RMG10	10	8	2 HP	0.5 HP
ST/RMG50	50	40	7.5 HP	2 HP
ST/RMG150	150	120	15 HP	3 HP
ST/RMG250	250	190	25 HP	5 HP
ST/RMG400	400	300	40 HP	7.5 HP
ST/RMG600	600	450	50 HP	7.5 HP
ST/RMG750	750	560	60 HP	10 HP
ST/RMG1000	1000	750	60 HP	10 HP
ST/RMG1200	1200	1000	75 HP	15 HP
ST/RMG1400	1400	1200	90 HP	15 HP
ST/RMG1600	1600	1300	100 HP	20 HP
ST/RMG2000	2000	1600	125 HP	25 HP



FLUID BED DRYER/COATER / PROCESSOR

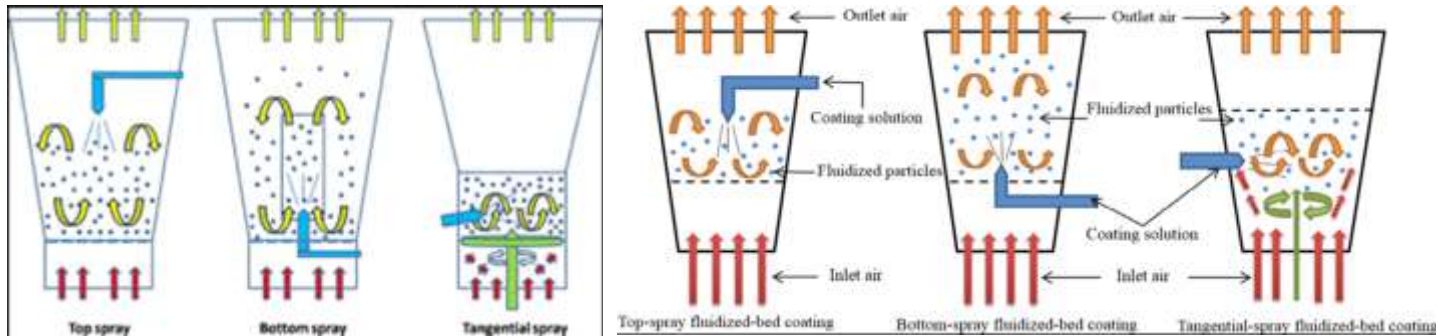
Fluid bed Dryer / Fluid Bed Processor is a process unit for Drying of granulated materials for solid dosage forms in batch operations. The Fluid Bed Processor is designed for Drying, Granulating and Coating. The heated inlet air homogeneously flows through the special designed perforated sheet into the product vessel, fluidizes the product and keeps it in constant motion. This ensures an excellent heat transfer and high drying rate.

Features

- Drying, Granulating & Coating in one unit.
 - High Degree of flexibility.
 - Optional conidur screen.
- Quick & easy filter replacement.
 - Flame proof Construction.
 - Customized units.
 - Both top and bottom spray available.

Range:

Model	Working Capacity	Bowl Volume	Blower Motor	Model	Max. Capacity	Min. Capacity	Blower Motor
ST/FBD5	5 kg	15 Ltrs	5 HP	ST/FBD150	150 kg	450 Ltrs	15 HP
ST/FBD10	10 kg	30 Ltrs	5 HP	ST/FBD200	200 kg	600 Ltrs	25 HP
ST/FBD30	30 kg	90 Ltrs	7.5 HP	ST/FBD250	250 kg	750 Ltrs	25 HP
ST/FBD60	60 kg	180 Ltrs	10 HP	ST/FBD300	300 kg	900 Ltrs	30 HP
ST/FBD120	120 kg	360 Ltrs	12.5 HP	ST/FBD500	500 kg	1500 Ltrs	60 HP



CO-MILL

Co-Mill is designed for size reduction application. Co-Mill is designed for low heat, Low sound, low energy consumption operation and speed variation. The infeed particles fall from the hopper is introduced into the conical screen chamber (cone mill) and the rotating impeller imparts a vortex flow pattern to the incoming material. The material is then forced to the screen surface by centrifugal acceleration, ensuring continuous delivery of powder / granules into the action zone between the screen and impeller.

Capacity:- 5 kg/hr to 1000 Kg/hr

Product	Model
ST/CM/ 1	1 HP
ST/CM/ 3	3 HP
ST/CM/ 5	5 HP
ST/CM/ 7.5	7.5 HP



VIBRO SIFTER / VACUUM VIBRO SIFTER

The vibro sifters are self-contained, compact machines that make precise mechanical separation according to particle size through efficient use of vibration. Vibro Sifter works on gyro principle. The required gyratory motion is obtained from specially designed gyro motor, which is fitted underneath the vibrating assembly. The complete vibrating assembly is isolated from the base by means of specially designed rugged springs. Vibro motor is fitted with top & bottom eccentric weights designed as per required centrifugal force. Total assembly is mounted on suitable springs so that it becomes an independent body which vibrates without parting any vibrations to the foundations.



Product Range:

Model	Size	Motor
ST/VS/12	12 Inches	Vibratory/0.5 HP / 1440 RPM
ST/VS/18	18 Inches	Vibratory/0.5 HP / 1440 RPM
ST/VS/24	24 Inches	Vibratory/0.5 HP / 1440 RPM
ST/VS/30	30 Inches	Vibratory/0.75 HP / 1440 RPM
ST/VS/36	36 Inches	Vibratory/1 HP / 1440 RPM
ST/VS/48	48 Inches	Vibratory/1.5 HP / 1440 RPM
ST/VS/60	60 Inches	Vibratory/2 HP / 1440 RPM
ST/VS/72	72 Inches	Vibratory/3 HP / 1440 RPM

STARCH PASTE KETTLE

The Starch Processing Kettles we offers are specially designed unit for application in pharmaceutical processing units. It is used for preparation of binder materials. This is also called starch paste kettle and is constructed as a hemispherical kettle with jacket mounted on trunnion that is supported with the help of a shaft. The kettle is provided with an anchor type beater for mixing the binder material and the paste with multiple speed option.



Product Range:

Model	Working Capacity	Motor
ST/PK/50	50 Liters	0.5 HP / 1440 RPM
ST/PK/100	100 Liters	1 HP / 1440 RPM
ST/PK/150	150 Liters	1.5 HP / 1440 RPM
ST/PK/200	200 Liters	2 HP / 1440 RPM
ST/PK/250	250 Liters	2 HP / 1440 RPM
ST/PK/300	300 Liters	3 HP / 1440 RPM
ST/PK/500	500 Liters	5 HP / 1440 RPM

OCTAGONAL BLENDER

- Material handling in Octagonal Blender is through Bin charging or a Vacuum charging system
- Bin charging system ensures Dust free closed system for Charging and Discharging of Product
- Power consumption is relatively lower than other tumble blenders
- Slow speed Blender with Gentle blending of Dry granules
- Rectangular opening Lid with Removable Baffle mounted inside
- Zero Jerk Load as machine is both dynamic and statically balanced.
- Higher capacity up to 20,000 liters available.



Product Range:

Model	Gross Capacity	Working Capacity	Motor
ST/OCB/100	100 Liters	70 Liters	1.5 HP
ST/OCB/250	250 Liters	185 Liters	3 HP
ST/OCB/400	400 Liters	300 Liters	3 HP
ST/OCB/600	600 Liters	450 Liters	5 HP
ST/OCB/1000	1000 Liters	750 Liters	7.5 HP
ST/OCB/1500	1500 Liters	1200 Liters	7.5 HP
ST/OCB/2000	2000 Liters	1500 Liters	10 HP
ST/OCB/3000	3000 Liters	2250 Liters	15 HP

DOUBLE CONE BLENDER

- The conical shape at both ends enables uniform mixing and easy discharge
- The cone is statically balanced which protects the gear box and motor from any excessive load
- Powder is loaded into the cone through a wide opening and discharged through a butterfly.
- Depending upon the characteristic of the product and capacity of blender, paddle type baffles can be provided on the shaft for better mixing, uniform blending and de-agglomeration
- Dust free bin charging system ensures minimum material handling provided as optional



Product Range:

Model	Gross Capacity	Working Capacity	Motor
ST/DCB/100	100 Liters	70 Liters	1.5 HP
ST/DCB/250	250 Liters	185 Liters	3 HP
ST/DCB/400	400 Liters	300 Liters	3 HP
ST/DCB/600	600 Liters	450 Liters	5 HP
ST/DCB/1000	1000 Liters	750 Liters	7.5 HP
ST/DCB/1500	1500 Liters	1200 Liters	7.5 HP
ST/DCB/2000	2000 Liters	1500 Liters	10 HP
ST/DCB/3000	3000 Liters	2250 Liters	15 HP

"V" BLENDER

- Integrated Vacuum loading option available
- The Bin charging system can also be incorporated in it which provides complete dust free closed environment for charging and discharging and optional
- The V-blender is good for blending dry powders and granulated products
- The shape of blender body results in a near complete discharge of product material, clearly an added advantage over horizontal blenders.
- According to product characteristic lump breaker are provided as optional in Internal attachments



Product Range:

Model	Gross Capacity	Working Capacity	Motor
ST/VB/100	100 Liters	70 Liters	1.5 HP
ST/VB/300	300 Liters	210 Liters	3 HP
ST/VB/500	500 Liters	350 Liters	5 HP
ST/VB/1000	1000 Liters	750 Liters	7.5 HP
ST/VB/2000	2000 Liters	1500 Liters	10 HP
ST/VB/5000	5000 Liters	3500 Liters	20 HP
ST/VB/10000	10000 Liters	7500 Liters	30P

CAGE BIN BLENDER

Typically designed square hermetically sealed blending material movement / storage bins with loose detachable trolley on P.U. wheels. Bigger Bins can be designed for customer's specific requirements. P.U. wheels and an inside / outside surface finish of <0.3 Ra. User specific bins can be designed to suit site / product specifications.

Cage Bin Blender has a flexibility of Batch Volume. Varying sizes of containers can be mounted on a drive console which is equipped with clamping cage.



Product Range:

Model	Gross Capacity	Model	Capacity (Ltrs.)
ST/CB/50	5	ST/CB/600	600
ST/CB/100	10	ST/CB/700	700
ST/CB/200	200	ST/CB/800	800
ST/CB/300	300	ST/CB/900	900
ST/CB/400	400	ST/CB/1000	1000
ST/CB/500	500	ST/CB/1500	1500

TABLET COATER / AUTO COATER

Tablet coating system is an innovative answer to current need of Pharmaceutical tablet coating process. Compliance of cGMP, 21 CFR Part 11 most common needs like cleanliness contamination aspects are key features of the equipment. The Coater is a highly efficient, safe and clean equipment for film and sugar coating of tablets, pills, pellets, etc. and has been made to boost productivity & flexibility.

Features

- Solution tank, multi air pump, double skin AHU with Pre, Micro and HEPA filter.
- Steam and chilled coil.
- Exhaust blower.
- Wet scrubber assembly.
- Anti-Bearding Spray Gun for spraying system.

Range:

Coater Model	ST/AC/12"	ST/AC/15"	ST/AC/18"	ST/AC/20"	ST/AC/24"	ST/AC/30"	ST/AC/36"	ST/AC/48"	ST/AC/60"	ST/AC/66"
Min. Capacity (Kgs)	0.7	0.9	1.7	4	7	9	25	100	200	300
Max. Capacity (Kgs)	2.5	3.5	6.7	9.6	17.5	24	65	150	300	500
No. of Guns	1	1	1	1	2	2	2	3	6	8
Pan Speed (RPM)	1 to 36	1 to 31	1 to 31	1 to 31	1 to 24	1 to 16	1 to 16	1 to 16	1 to 10	1 to 8

Capacity consider @ 0.8 BD



CONVENTIONAL COATING PAN

Swarnim offers Coating Pan that consists of an Ellipsoidal pan mounted on suitable stand and driven by a motor through suitable gear box. The Pan made out of SS 316 and has welded baffle in it. This baffles helps in tumbling of the tables/ Material into the pan while rotating.

Spraying system is also provided along with the coating pan for the film coating/ sugar coating into the tables. This consists of suitable capacity pressurized vessel with spray gun mounted on the stand. Alternately a peristaltic pump is provided to transfer the liquid onto spray gun and then sprayed into the pan.

Features

- All Contact parts SS 316/ SS 304 & Non- Contact parts SS 304
- Conventional coating system for manual film coating and sugar coating
- Easy interchange facility with different size of Pan
- FLP construction can be provided with extra cost.



Range:

Model	ST/CP/12"	ST/CP/24"	ST/CP/36"	ST/CP/48"	ST/CP/60"	ST/CP/66"
Loading Capacity	3-5	25	60-80	100-120	150-200	250-300
Pan RPM	24/72	24 / 72	12 / 36	10 / 30	8 / 24	5 / 10
Drive Motor HP	0.5 HP	0.5 HP	1 HP	2 HP	5 HP	7.5 HP
Hot Air Blower HP	0.25 HP	0.25 HP	0.5 HP	1. HP	1 HP	1 HP

SOLID MATERIAL HANDLING SYSTEM

MOBILE LIFTER /LOADER UNIT

Mobile loaders are manufactured for lifting the storage bins and later positioning the same at their destination with these devices a tilting facility is provided owing to which FBD's product container can be emptied. Further, this facility helps in charging the material in order to process the equipment.

These units are constructed using various standard assemblies which offer individual solution to each application of solid dosage manufacturing and also for liquid compounding operation.

Features:

- Closed Column construction with floor and ceiling fastening, also available in self- standing pivoted execution.
- Adjustable Mount Stop.
- Lift Lock for safety provided.



MOBILE TIPPER UNIT

The Tipper Unit is a standalone unit allowing minimum manpower with cGMP concept for Lifting and Tilting. It is Ideal for faster operation with minimum dust generation. Tilting degree of the cone provided by double action hydraulic cylinder through specially designed rack and pinion assembly. Hydraulic Power Pack operated through custom built panel with pushbutton station for Raising / Lowering & Tilting with limit switches for controlling the UP / DOWN movement.

Features

Tipper is Easy to operate and clean. Totally closed operation to avoid dusting. Connect with granulator for continuous discharge. Tipper is Easy to clamp with fluid bed dryer bowl. Available from range 60 kg – 600 kg can be extended as per client's requirement.



VACUUM / POWDER TRANSFER SYSTEM

The Powder Transfer System (PTS) / Vacuum Transfer System (VTS) represents an ideal solution for meeting the easy transfer of material by generating and maintaining vacuum in the system. The 100% material can be easily transferred from one process to another in time with minimum engagement of human resources. This pneumatically operated system offers safety and hygiene hence cGMP compliant.



Features:

- Pneumatically operated transfer system for powder and granules
- Closed system for dust free operations
- Considerable reduction or elimination of operator exposure
- Improved agitation and thus reduced batch time, through controlled material addition
- Easier to clean than conventional vacuum conveying equipment; CIP available
- Automatic pulse filter cleaning mechanism for improved process efficiency
- Multiple options available for different applications: Fixed, Mobile & Wall mounted

IPC / IBC BIN

Bins are the accepted industry standard for powder handling & Processing application where containment is required. Ease of Cleaning, Provide Containment, work in progress storage & testing, quick batch changing & repeatedly homogeneous blending. Store the dry powder / Granules and transfer material to another equipment Vertical, Cylindrical, Circular, Conical bottom, loose Top Lid.



Range:

Model	Gross Capacity	Model	Capacity (Ltrs.)
ST/IPC/50	5	ST/IPC/600	600
ST/IPC/100	10	ST/IPC/700	7000
ST/IPC/200	200	ST/IPC/800	800
ST/IPC/300	300	ST/IPC/900	900
ST/IPC/400	400	ST/IPC/1000	1000
ST/IPC/500	500	ST/IPC/1250	1250
Model	Gross Capacity	Model	Capacity (Ltrs.)
ST/IBC/50	5	ST/IBC/700	7000
ST/IBC/100	10	ST/IBC/800	8 0 0
ST/IBC/200	200	ST/IBC/900	9 0 0
ST/IBC/300	300	ST/IBC/1000	1000
ST/IBC/400	400	ST/IBC/1250	1250
ST/IBC/500	500	ST/IBC/1500	1500
ST/IBC/600	600	ST/IBC/3000	3000

SILO

Silo storage tanks are used around the world to keep bulk products safe. Many companies, from the oil companies to local food producers, utilize silos as a simple way to store huge amounts of any substance without putting it at risk. Silos can be built using a wide range of materials to meet the needs of the product that will be stored in them, and can also be refrigerated or coated for extra protection. Silos also come in horizontal and vertical orientations, but vertical silos are most popular for a number of reasons. Construction There are a wide range of construction materials used to build silos today including steel, aluminum, wood and even concrete. For most food and fuel related purposes, aluminum and stainless steel are most common. This is because it is relatively easy for a metal fabricator to manipulate sheets of metal to form a solid ring, and then stack those rings together to form one contiguous structure. Depending on the height and weight need.



SACK DISCHARGE STATION WITH FLEXIBLE CONVEYOR



BAG/DRUM FILLING STATION



SCREW CONVEYOR

Screw conveyors are used to convey bulk material from almost any position (vertical, horizontal, or at an incline) and are one of the most reliable methods of conveyance. The screw conveyor is composed of a pipe with a welded steel strip that is formed into a continuous helix. The helix is referred to as the flighting. The distance along the pipe from one point on the flighting to the next similar point is called the "pitch." Couplings and shafts refer to the mechanisms by which two screw conveyors are joined. The screw conveyor may be housed in a "tube" or "trough." The tube is a hollow cylinder, whereas the trough has a "U" shape profile, hence the term "U-trough" augers. Hangers are used to provide support and maintain alignment of the screw conveyor.



CHEMICAL & API

HEAT EXCHANGER

A shell and tube heat exchanger is a class of heat exchanger designs. It is the most common type of heat exchanger in oil refineries and other large chemical processes, and is suited for higher-pressure applications. As its name implies, this type of heat exchanger consists of a shell (a large pressure vessel) with a bundle of tubes inside it. One fluid runs through the tubes, and another fluid flows over the tubes (through the shell) to transfer heat between the two fluids. The set of tubes is called a tube bundle, and may be composed of several types of tubes: plain, longitudinally finned, etc. There are also multiple arrangements possible, including U-tube, fixed tube, or a floating head configuration.



Capacity: 0.2 M² to 1000 M²

PRESSURE VESSEL & STORAGE TANK

We are manufacturing pressure vessel as per ASME Standard and other international standards. A pressure vessel is a closed container designed to hold gases or liquids at a pressure substantially different from the ambient pressure. A common design is a cylinder with end caps called heads. Head shapes are frequently either hemispherical or dished (torispherical).

Type: - Vertical or Horizontal according to client requirements



CHEMICAL REACTORS

We are manufacturing wide range of Reaction Vessel- Reactor for wide variety of chemical reactions including condensation, polymerization, hydrolysis, hydration, reduction, oxidation, hydrogenation etc. for API, Pharma, Biotech and Chemical Industry Standard according to ASME-Sec-VIII-Div.-1 regulations, with heating / cooling systems.

Various materials of construction, such as MS, SS-304, SS-316/316L, Rubber Lined etc, can be offered as per requirement.

Features

1. Capacity from 50Ltr.up to the limitation of road transport
2. Design range from full vacuum up to 30 Kg / cm²
3. Design temperature from -20°C to + 250°C.
4. Heating / Cooling by double jacket, half coils.
5. Agitators available with axial flow, radial or combined double flow
6. DQ, IQ and OQ protocols.
7. Thermal insulation with stainless tight welder cover (Hot & Cold).
8. Agitation systems with mechanical sterile seals as an option.



SPARKLER FILTER

A. STANDARD FLOW TYPE:- The impure liquid to be filtered is fed to the filter shell by pump. It arrives on top of each plate through opening on the sides of plates. As liquid pressure increases, the filter media (Paper/fabric) holds back the impurities & allows the crystal clear filtrate to pass through the central channel (formed by interlocking cups) which takes the filtrate to the outlet of filter. This filter most commonly used to obtain clear liquid. However if required, the cake formed between the plates can be obtained. Filtration is continued until its rate becomes very slow due to increased cake resistance.



B. ZERO HOLD UP FILTER PRESSES:- The Cartridge assembly consists of plates, perforated screens, spacers and filter media. Interlocking spacers internally form single pipeline. The unfiltered liquid is centrally fed under pressure from bottom inlet. The liquids spreads out equally on each plate fitted with filter media. Solids remain on filter media and clear filtrate flows through precisely made holes on sides of plates and collects in the shell, which then comes out through the outlet. In this process, solids are evenly distributed on each plate. The cake is then cleaned from the filter material and used again for filtration process.

DRYER

ROTOCONE VACUUM DRYER (RCVD)

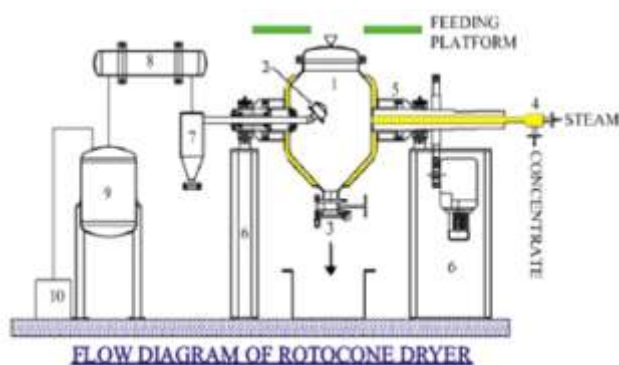
Rotocone vacuum dryer is suitable for drying of materials which cannot resist high temperature, material which are easily oxidized, volatile materials which should be retrieved, poisonous in nature and strong irritants. The RCVD facilitates enhanced drying efficiency, low temperature operations and economy of process by total solvent recovery. The drying unit comes equipped with lump breakers initially breaks large lumps and subsequently powders them. The rotary action of the dryer together with mechanical action of the breakers, cuts down drying time and gives a lump free product

Features:

- GMP Unit, ideal for Pharmaceutical, Chemical & Food Industry.
- Drying at lower temperature under vacuum.
- Good solvent recovery.
- Rapid and complete discharge.
- Closed system – Automatic charging & discharging.
- Provision of sampling port without breaking vacuum.
- Provision for Lump breaker.
- Provision for N₂ pulsing & purging arrangement.

Product Range:

Model	Gross Volume	Working Volume	Model	Gross Volume	Working Volume
ST/RCVD/25	25 Liters	12.5 Liters	ST/RCVD/1000	1000 Liters	500 Liters
ST/RCVD/100	100 Liters	50 Liters	ST/RCVD/1500	1500 Liters	750 Liters
ST/RCVD/300	300 Liters	150 Liters	ST/RCVD/2000	2000 Liters	1000 Liters
ST/RCVD/500	500 Liters	250 Liters	ST/RCVD/3000	3000 Liters	1500 Liters
ST/RCVD/750	750 Liters	375 Liters	ST/RCVD/5000	5000 Liters	2500 Liters



VACUUM TRAY DRYER

A Vacuum Tray Dryer is widely used in pharmaceutical, chemical and food industries to dry materials that are oxidizable, heat sensitive and hygroscopic in nature. Receiver, Heat exchanger and Vacuum Pump are primary accessories for working of vacuum tray dryer. Vacuum Tray dryer is the most commonly used as batch dryer. Inside are several heating plates mounted one above the other on which the product is placed in trays.

Features

- Internal and external both chambers of these Vacuum Tray Dryers are made of high grades stainless steel, with a choice of customer we use SS 304 / SS 316 / SS 316L stainless Steel.
- The medium flowing through the heating plates is water, steam or thermic oil.
- The distance between the heating plates is determined primarily by the surface loading and the foaming of the product.
- Heating temperatures are normally in the range between 80C and 110C. Depending on product and surface load, drying takes from a few hours to 1 to 2 days.
- Vapours produced during drying are taken out direct, or via a steam jet compressor to a surface condenser in which the vapours condensate. The non-condensable vapours are extracted by the vacuum system.
- On completion of the drying, the product can be cooled by circulating of cooling water through the heating plates.
- Limit Switch, Pressure release valve, Vacuum break valve, PID Controller is also provided.

Product Range:

Model	ST/VTD/12	ST/VTD/24	ST/VTD/36	ST/VTD/48	ST/VTD/96
No of Trays	12	24	36	48	96
No of Heating Shelves	7	9	13	17	17
Condensor	1 M2	2 M2	3 M2	5 M2	8 M2
Receiver	50 Liters	75 Liters	100 Liters	150 Liters	250 Liters

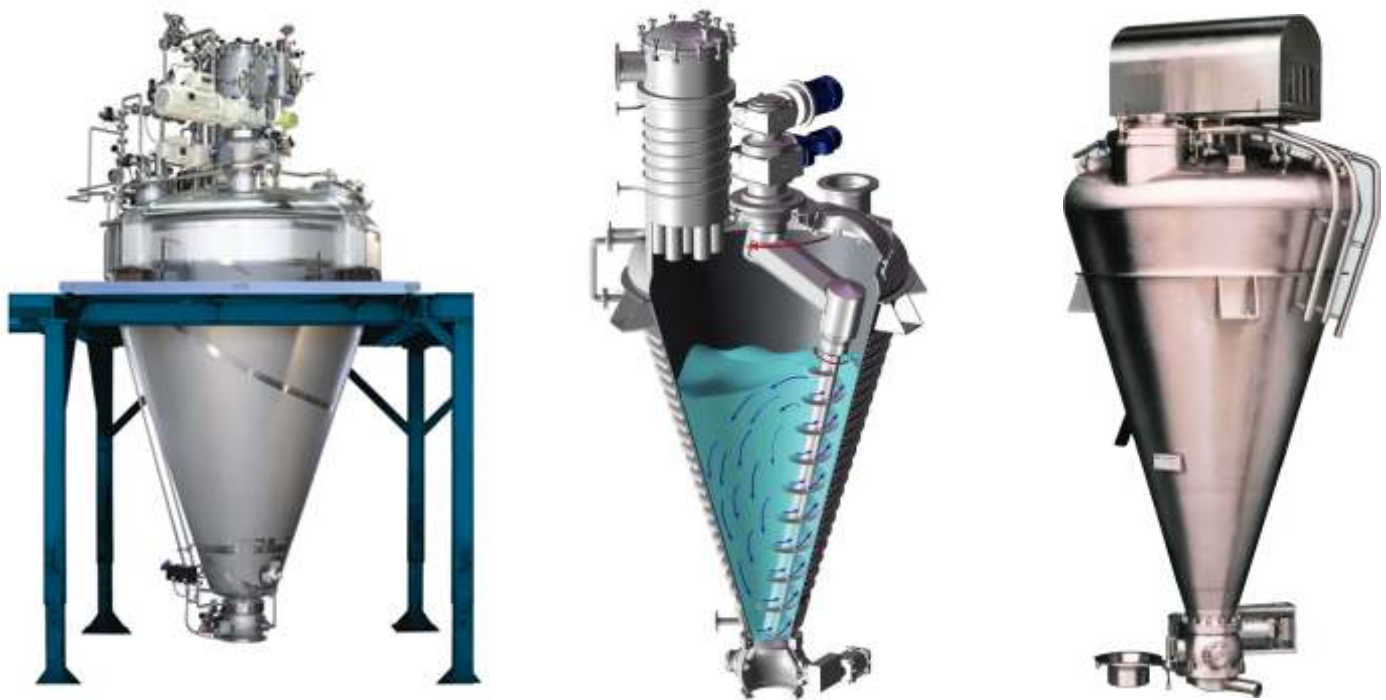


NAUTA MIXER DRYER

The working principle of the conical Vertical Blender mixer is three-dimensional, originated from rotating elements in combination with a conical vessel. It offer mixing in three dimensions. They are used for simple dry blending to complex vacuum drying operation. The tri blending action helps to achieve through mixing within short cycle time. The mixing screw moves the material upward in spiral motion. The upward motion is then combined with internal motion around its periphery of vessel walls. Finally the lifted material are cascaded from the top of the screw & flow down away from the screw to complete the mixing pattern.

Features

- A. Typical blending time is ½ of conventional blenders.
- B. Complete discharge through bottom valve.
- C. Gentle mixing, hence does not degrade sensitive raw material.
- D. Provision for inclusion of chopper.
- E. Fast and intensive mixing with low consumption of power and high standards of mixing accuracy.



AIR / ELECTRICAL / STEAM TRAY DRYER

Tray dryer capacity is 6 trays to 192 trays. The tray dryers are heated by means of electrical, steam, and oil as fired burners. The dryer cabinet is designed in such a way that air inside the dryer has minimum resistance at all the corners of the dryer. All the sides of the dryer from inside are made with rounded corners with maximum angle so as to have more slippage to air, resulting into less pressure drop across the corners. The outer body is also fabricated with rounded edges without steps from outside to have smooth finish. The inside fan & radiator/heaters are covered with SS / GI mesh to have safety in operation.

Air in the dryer is circulated by means of fan fitted on the side of the dryer. The fans are made out of AISI 304 / 316 or MS with SS / MS / EN8 shafts driven by suitable motors.

Tray sizes of 32"X 16" X 11/4" or 32" X 16" X 2" are manufactured out of 16/18/19 swg., AISI 304 / 316 material. All the corners are rounded without any gap. The 18 swg trays are with bidding from the top, while 16-swg trays come without bidding, and are used for all GMP model tray dryers. The trays are polished to mirror finish. The trays with perforation are also supplied for bottle or vial dryers.

Tray dryer trolleys are manufactured from heavy gauge rectangular pipes & SS angle with cross supports brackets & SS wheels.

Product Range:

Model	ST/TD/12	ST/TD/24	ST/TD/36	ST/TD/48	ST/TD/96	ST/TD/192
No of Trays	12	24	36	48	96	192



MIXER BLENDER

RIBBON BLENDER

Ribbon Blender is a light duty, compact blender is designed to achieve convection mechanism of blending powder components which are pre-processed like dried granules, pre-sieved powders etc. It is a LOW SHEAR mixer and ideal for SOLID Mixing.

Features

- Available in two shapes - U & W
- U-for Low to Medium volume Capacity (single shaft)
- W-for Large to Mega volume Capacity (double shaft)
- Batch size based on 65% of Blender volume
- Bearing mounted on lanterns out of mixing zone
- Air purge on the side entry seals
- Continuous Ribbon design for complete discharge.
- Variable frequency drive for fine tuning the Shear energy



Range:

Model	Gross Capacity	Working Capacity	Motor
ST/RB/15	15 Liters	5 Kg	0.5 HP
ST/RB/75	75 Liters	25 Kg	1 HP
ST/RB/150	150 Liters	50 Kg	1.5 HP
ST/RB/300	300 Liters	100 Kg	2 HP
ST/RB/600	600 Liters	200 Kg	3 HP
ST/RB/1500	1500 Liters	500 Kg	5 HP
ST/RB/2000	2000 Liters	750 Kg	7.5 HP
ST/RB/3000	3000 Liters	1000 Kg	10 HP
ST/RB/4500	4500 Liters	1500 Kg	15 HP
ST/RB/6000	6000 Liters	2000 Kg	20 HP
ST/RB/9000	9000 Liters	3000 Kg	30 HP
ST/RB/12000	12000 Liters	4000 Kg	40 HP
ST/RB/15000	15000 Liters	5000 Kg	50 HP

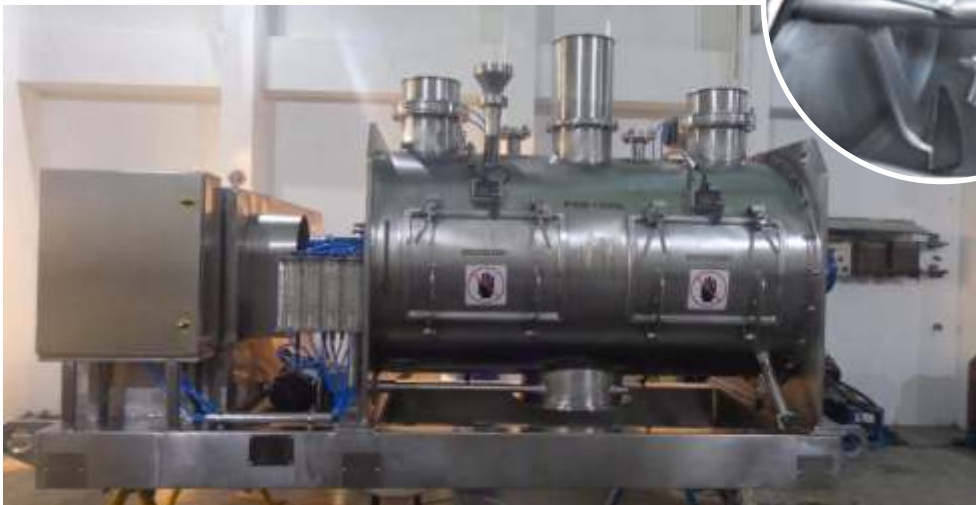
Plough Shear Mixer

The ploughshear shovels are in special arrangement on a mixing shaft in a horizontal, cylindrical drum rotate closely to the wall. Their peripheral speed and geometric form are coordinated in such a way that the mix is moved out of the product bed against the centrifugal force and in axial direction at the same time. In addition, the shape of the shovels lifts the product particles from the drum wall. The product inside the machine is moved from the inlet to the outlet in a pilgrim step manner: two steps forward, one step back.

Choppers can be additionally installed in the mixing drum to increase the turbulence in the mixing process. This also ensures the mixing of fine particles in small quantity and enables the dispersion of product agglomerations and primary particles.

Advantages

- Highest quality mixes in short mixing times
- Gentle treatment of the product
- Reliable reproducibility of the mix quality
- Combined processes in one single machine
- Easy accessibility to all inside parts of the mixer



Type	Mixer Volume	Working Capacity	Type	Mixer Volume	Working Capacity (L)
ST/PSM/130	130 Liters	40-90 Liters	ST/PSM/2000	2000 Liters	600-1400 Ltr.
ST/PSM/300	300 Liters	60-200 Liters	ST/PSM/3000	3000 Liters	900-2100 Ltr.
ST/PSM/600	600 Liters	180-400 Liters	ST/PSM/4200	4200 Liters	1250-3000 Ltr.
ST/PSM/900	900 Liters	250-600 Liters	ST/PSM/6000	6000 Liters	1800-4200 Ltr.
ST/PSM/1200	1200 Liters	350-850 Liters	ST/PSM/8000	8000 Liters	2400-5600 Ltr.
ST/PSM/1600	1600 Liters	500-1100 Liters	ST/PSM/10000	10000 Liters	3000-6250 Ltr.

COMETICS / OINTMENT / CREAM

OINTMENT / CREAM MANUFACTURING PLANT

The Ointment Manufacturing Plants are ideal tools for the pharmaceutical & cosmetic industries for the production of Ointment, Cream, Lotions, Tooth Paste & other emulsions & homogenizations.

It is specially designed to take care of two critical factors which directly affects the quality of the Ointment / Creams.

- Negligible vacuum drop during mixing & blending.
- Minimum man handling



Features

- This system consists of a closed-circuit manufacturing facility from feeding of Wax / Water Phase to loading the hopper of filling machine.
- The Wax and Water at required temperature are transferred to Manufacturing Vessel or Planetary Mixer, by vacuum through conical filter.
- The product during emulsion formation is recirculated through Ointment Transfer Pump. The Pump also discharges the product in the Storage Vessel
- The entire Plant can be operated by centralized operating panel by one operator.
- The entry of all agitators are from top & High Speed Homogenizer from bottom or In- line Homogenizer.
- The entire plant is equipped with CIP & WIP connections, so that customer can use these facility, if they have CIP & WIP equipment.

Model	Working Capacity	Metering Pump	Wax Phase Vessel	Water Phase Vessel	Mfg Vessel	Storage Vessel	Vacuum Pump	Lobe Pump
ST/OMP/5	5 KGS	N	Y	Y	Y	N	Y	N
ST/OMP/25	25 KGS	N	Y	Y	Y	N	Y	N
ST/OMP/50	50 KGS	O	Y	Y	Y	O	Y	O
ST/OMP/100	100 KGS	Y	Y	Y	Y	Y	Y	Y
ST/OMP/200	200 KGS	Y	Y	Y	Y	Y	Y	Y
ST/OMP/300	300 KGS	Y	Y	Y	Y	Y	Y	Y
ST/OMP/500	500 KGS	Y	Y	Y	Y	Y	Y	Y
ST/OMP/1000	1000 KGS	Y	Y	Y	Y	Y	Y	Y
ST/OMP/2000	2000 KGS	Y	Y	Y	Y	Y	Y	Y
ST/OMP/3000	3000 KGS	Y	Y	Y	Y	Y	Y	Y
ST/OMP/5000	5000 KGS	Y	Y	Y	Y	Y	Y	Y

PLANETARY MIXER

The Planetary Mixer is an efficient mixer and the planetary motion of various beater enables faster mixing of material in lesser time. It is built in strong body to ensure low vibrations and smooth functioning. Hydraulic vertical movement of both the bowl and the top agitator for easy operation.

Features

- Planetary Mixer is ideal for mixing of wet/dry materials.
- Slow speed is used for dry mixing with less dust generation and faster speed for kneading operation during wet granulation.
- The mixing bowl can be jacketed for electric / steam heating.
- Manual lifting arrangements for agitators up to 50 Lts and hydraulic lifting arrangement for capacities of 100 Lts and above.
- The top of the mixing bowl has an S.S. lid with a charging hole
- The mixing bowl is provided with castor wheels and locking system for easy handling and transportation.



Model	Gross Capacity(L)	Working Capacity (L)	Hydraulic Lifting Motor	Main Motor
ST/OMP/100	50	40	Manual	1 HP
ST/OMP/200	100	80	0.5 HP	3 HP
ST/OMP/300	200	150	1 HP	5 HP
ST/OMP/500	300	250	1 HP	7.5 HP
ST/OMP/1000	600	450	1.5 HP	15 HP
ST/OMP/2000	800	650	1.5 HP	15 HP
ST/OMP/3000	1000	800	2 HP	20 HP
ST/OMP/5000	1200	1000	2 HP	25 HP

CONTRA ROTARY MIXER

Contra Mixer as the name suggest works on the principle of Contra rotation of Blades for simultaneous beating and scraping operation. The mixer is highly versatile and mostly used for manufacturing Tooth Paste, Creams, Cosmetics and other viscous products. The Mixing Assembly consists of series of paddle type blades of appropriate shape to move the material back towards the centre of the container. The paddle type blades are provided on the central shaft which runs through a hollow shaft on which other sets of blades are welded. Both the sets of blades intermeshes with each other and rotates in clockwise and anti-clockwise direction respectively and one sets also scraps the container wall for thorough and uniform mixing of the material. The mixer is so designed to withstand high vacuum applied during the process for optimum mixing. Contra Mixer is provided with a jacket for cooling or heating as per the application.



HOMOGENIZERS

Homogenizers are the device to form homogeneous solutions or dispersions of two different phases or even similar phases viz. liquid-liquid mixing and dispersion, liquid-solid mixing and dispersion and liquid-gas mixing and dispersion.

It is an equipment by which a mixture is made uniform throughout its volume. Mainly used for liquid mixtures that contain one or more immiscible components. Size reduction takes place due to the forcing of particles through the narrow openings of the grating. The resulting mixture is more stable and the particles will not separate out.

We offer following types Homogenizers:

A. Inline Homogenizer

B. Top & bottom entry Homogenizer

A. INLINE HOMOGENIZER

- This device allows to micronize and scatters the particle suspended in the fluid, so that the product become highly stable.
- It has stator rotor arrangement and no. of stator and rotor can be increased based on application.
- This can be used in applications such as Emulsifying, Homogenizing, and particle size reduction.
- Types of Inline Homogenizer:

1) Single Stage 2) Double Stage 3) Triple Stage

B. TOP & BOTTOM ENTRY HOMOGENIZER

- Top & Bottom Entry homogenizer's stator rotor work heads divides the machine into two separate chambers one with the inlet and other with the outlet.
- The stator is available with perforations of different size and shapes.
- It is mounted inside the tank and unit is suitable for blending, mixing, solid disintegrations and suspensions
- Bottom entry mixers are designed to fit into the bottom or side of a mixing vessel.



LIQUID SYRUP MANUFACTURING PLANT

The Liquid Syrup Manufacturing Plants are ideal tools for the pharmaceutical industry for the production of Oral Liquids. It is specially designed to take care of two critical factors which directly affect the quality of the Liquids. Minimum manual handling of Liquid and effective cleanness during manufacturing. Abster Equipment offers Syrup Manufacturing Plants capacity ranges from 50 Liters to 20,000 Liters. Needless to say, it also provides the benefits of the effective manpower utilization..Sugar Melting Vessel It is made out of 316 sheet all welding is done by an argon arc welded & all Joints are ground to smooth finish. It is mounted on S.S.304 construction legs. Prefilter It made out of SS 316 quality fitted inline between Sugar melting vessel and syrup Manufacturing Vessel. Manufacturing Vessel It is made out of SS 316 sheet & all welding is done by an argon arc and all joints are ground to smooth finish. It is mounted on S.S.304 construction legs. Storage Vessel It is made out of SS 316 sheet & all welding is done by an argon arc and all joints are ground to smooth finish. It is mounted on S.S.304 construction legs Zero Hold Filter Press It is made out of SS 316 quality sheet. Complete unit shall be mounted on Portable trolley. Inline Homogenizer SS. 316 Inline homogenizer with mounting & motor attached. Inlet & Outlet 25 NB with tri clover fittings Control Panel Made out from SS 304Q consisting fuses, voltmeter, terminal, contactor, on/off switches & wiring.



MILLING

COMMUNITING MILL

Comminuting mill is used for the down sizing, milling, pulverization and dispersion of wet and dry products in pharmaceutical, chemical, food, cosmetics, fertilizers industry etc. The product is poured from the top through in feed hopper and material falls on the rotor blades beater assembly for milling or pulverization. Due to the knife edges mounted on rotor, the downsizing of particle takes place and through sieve material gets pushed outward from the bottom opening. Knife edges can be removed for cleaning very easily



Model	ST/CM/1	ST/CM/2	ST/CM/3	ST/CM/4	ST/CM/5
Output (kg/hr)*	50 to 800	50 to 800	50 to 800	50 to 800	UP TO 2000
No. of Beaters	16	16	16	16	32
Beater Speed (rpm)	Fix speeds 1000/2250/4500	Variable from 1000 to 4500	Fix speeds 1000/2250/4500	Variable from 1000 to 4500	Variable from 1000 to 6000
Beater Motor	7.5 HP	7.5 HP	7.5 HP	7.5 HP	15 HP

MULTI-MILL

Multi mill machines are widely used for wet and dry granulation, pulverization etc. These machines find application in pharmaceutical, chemical, bulk drug, cosmetic, dyestuffs and food processing industries. It operates on the principle of variable force swing beaters having both knife and impact edges rotating within a selected screen to get the required size reduction.

Material fed in the hopper, goes down to the processing chamber where it moves to the periphery and passes through the screen radially and tangentially. Finally the processed material gets collected in the container kept below the processing chamber.

Product	Model
ST/MML/1	1 HP
ST/MML/3	3 HP
ST/MML/5	5 HP
ST/MML/7.5	7.5 HP



DELUMPER

Delumper is designed to handle through processing applications in varied industries including, chemical, plastics, food, nutraceuticals and pharmaceutical industry. It is a versatile size reduction equipment suitable for wet, dry, hard, soft, resinous, brittle or sticky material that renders them free flowing.



Features

- Handles homogeneous or heterogeneous materials, dry powders, resinous, hard or soft agglomerates without degrading the product or overheating the product or producing fines
- Powerful crushing capabilities, with option of increasing shaft length and number of blades
- Engineered to fit into open or close systems
- Material loading by gravity or integrated with vacuum transfer line for cost efficient high throughput
- Eliminates blockages in further processing of material.

Capacity

Model	Output Capacity	Motor
ST/DL/250	250 KG/HR	3 HP
ST/DL/500	500 KG/HR	5HP

OSCILLATING GRANULATOR

Oscillating granulators are widely used in the pharmaceutical, chemical and nutritional industry for quick and efficient de-lumping and Particle reduction. The rotating sieve mill guarantees optimum sizing results plus excellent flow rates. The 360-degree rotor movement ensures constant, uniform speed and force effect for gentle sizing of the product.



Model	Output Capacity	Motor
ST/OG/250	250 KG/HR	3 HP
ST/OG/500	500 KG/HR	5HP

CLEANING SYSTEMS

BIN WASH SYSTEM

The IBC Bin Washing system is the main automatic bin washing equipment in the tablet solid dosage production procedure. One main bin washer machine can wash different specifications of bins and containers, and consequently it is considered as the ideal washing equipment for bins or containers in pharmaceutical industry. It is also widely used in solid pharma , API Pharma , chemical, foodstuff industries, etc.



This bins or containers washing system are equipped with pump station, air handling unit (AHU)- Optional , washing and operating control systems. When operating, open the inlet door of the Bin washing station, push in the used bin or container and close the door of bin washer. Then, set the washing procedure according to the process requirements and start the bin washing procedure. When the automatic bin washing is finished then machine shall stops automatic. After open the exit door of the washing bin washing machine / station, push out the bin and store it in a clean intermediate room for next production usage.

CIP/WIP SYSTEM

CIP/ WIP system is useful for cleaning and washing at place of Vessel, Tank, Bin, Fluid Bed Equipment, High shear Mixer, Blender, Auto Coater and IBC Bin.

We manufacture skid type of CIP/ WIP system with trolley Mounted CIP system with controls.

Trolley mounted CIP system have inlet connection with pneumatic operated valve for Plain water, Hot water, Detergent and D.M.Water with pressurized pump, which are connected with spraying ball with supply pipe on the machine. The complete CIP/WIP system is



operated by PLC controls system with touch screen HMI. PLC controls system is working as per set time for washing cycle of the inlet & outlet as per requirements.

Trolley mounted complete CIP/WIP system is consist of High pressure pump, Inlet Connection pneumatic valve , Outlet connection with pneumatic Valve, Pneumatic control panel, Electric controls panel with PLC & HMI Touch screen.

CIP/WIP system can be supplied with liquid detergent tank, Hot water generator etc. as per customer requirements.

ISOLATOR

The pharmaceutical isolator is a bacteriologically sealed enclosure used in the medical and pharmaceutical environment for toxic processes and aseptic filling process. It is made of a perfectly sterile main isolator where the products are handled, stored or packaged using shoulder-high gloves placed on one of the walls. It also includes transfer systems that allow the entry and exit of the products and the elimination of waste without breaking aseptic conditions.

Features

- Fast-track design process; 3D modeling
- 316L all stainless steel construction
- Radiused corners and seamless surfaces allow for ease of cleaning and decontamination
- Advanced ergonomics for the individualized requirements of your workflow
- Integrated aseptic material transfer systems
- On-board decontamination/sterilization
- Controlled environments for specified set points including temperature and RH
- System for continuous monitoring of critical conditions
- IQ/OQ; complete documentation and validation package
- Factory Acceptance Testing
- Units meet or exceed all cGMP and other relevant standards and guidelines including: ISO classes, USP, GAMP 5, BSL and FDA CFR Title 21 Parts 210 & 211





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