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BOMBAY PHARMA EQUIPMENTS PVT. LTD. is a renowned provider of cutting-edge pharmaceutical equipment solutions. We specialize in the design, manufacturing, and installation of high-quality machinery tailored to the unique requirements of the pharmaceutical industry. With an unwavering commitment to excellence, innovation, and customer satisfaction, we have firmly established ourselves as the preferred partner for

Our Expertise:

At Bombay Pharma Equipments, we possess an in-depth understanding of the intricate needs of the pharmaceutical sector. Our team comprises highly experienced engineers and technicians who are dedicated to delivering state-of-the-art solutions that adhere to the highest standards of quality, reliability, and compliance. By staying at the forefront of technological advancements, we consistently provide advanced equipment that is customized to meet our clients' specific needs.

pharmaceutical companies worldwide.

Quality Assurance:

◆ At Bombay Pharma Equipments, quality is our utmost priority. We adhere rigorously to international quality standards and guidelines throughout our manufacturing processes. Our world-class facilities are equipped with state-of-the-art testing and inspection tools, guaranteeing that every product leaving our premises surpasses the highest quality benchmarks.

Client Satisfaction:

We deeply value our clients and strive to build long-term relationships based on trust and mutual success. Our dedicated customer support team is always available to provide prompt assistance, guidance, and exceptional after-sales service. By closely collaborating with our clients, we gain comprehensive insights into their specific requirements, allowing us to deliver tailored solutions that consistently exceed their expectations.

Global Reach:

With a robust global presence, Bombay Pharma Equipments serves clients across the globe. Our products are trusted by pharmaceutical companies of all scales, ranging from small-scale enterprises to multinational corporations. Having successfully executed numerous projects in diverse countries, we have solidified our reputation as a reliable and preferred partner in the pharmaceutical equipment industry.









Infrastructure:

At Bombay Pharma Equipments Pvt. Ltd., we boast state-of-the-art infrastructure that enables us to deliver high-quality pharmaceutical equipment solutions. Our world-class facilities are designed to meet stringent industry standards and provide an optimal environment for manufacturing, testing, and innovation.

Manufacturing Facility:

Our 20,000 sq. ft. manufacturing facility is equipped with advanced machinery, cutting-edge technology, and modern production lines. We have dedicated areas for each stage of the manufacturing process, ensuring efficient workflow and adherence to strict quality control measures. Our production floor is spacious, well-organized, and designed to maximize productivity while maintaining the highest standards of safety.

Quality Assurance:

Quality is ingrained in every aspect of our operations, and our quality assurance infrastructure is a testament to our unwavering commitment to excellence. We have a well-equipped quality control laboratory where our expert team conducts rigorous inspections and tests on raw materials, components, and finished products. Our quality assurance processes ensure that our equipment meets the highest standards of performance, reliability, and compliance with regulatory requirements.

Testing and Validation Facilities:

To ensure the reliability and performance of our equipment, we have dedicated testing and validation facilities. These facilities are equipped with advanced testing instruments and simulate real-world operating conditions to assess the durability, accuracy, and efficiency of our products. Through comprehensive testing and validation, we guarantee that our equipment meets or exceeds industry standards and provides our clients with reliable and consistent performance.

OUR CLIENTS





































































































OUR CLIENTS













































































































RAPID MIXER GRANULATOR (RMG)

Rapid Mixer Granulators (RMGs) are widely used in the pharmaceutical industry for the wet granulation process. They combine mixing, granulation, and drying into a single unit, facilitating the production of uniform and homogeneous granules. Here's an overview of the utilization of a Rapid Mixer Granulator and its associated process:



Loading:

The powders or granular materials, including active pharmaceutical ingredients (APIs), excipients, and binders, are loaded into the Rapid Mixer Granulator. The materials are typically pre-mixed to ensure an even distribution.

Mixing:

The Rapid Mixer Granulator is set in motion, and the impeller, equipped with blades, starts rotating at a high speed. The rotation generates a powerful radial and axial flow, causing the materials to mix thoroughly. The impeller's design promotes effective blending and prevents the formation of dead zones.

Wet Granulation:

Once the dry mixing is complete, a liquid binder solution is added to the mixture through spray nozzles. The binder solution may contain water or other solvents. The liquid binder facilitates particle adhesion, forming granules. The wet mass agglomerates as the liquid binder wets the particles and creates cohesive bonds.

Granule Growth:

During the wet granulation process, the impeller blades break down any oversized particles and promote uniform wetting and granule growth. The granules increase in size and become more spherical as the wet mass continues to agglomerate.

Drying:

After the desired granule size and moisture content are achieved, the drying process begins. Hot air is introduced into the Rapid Mixer Granulator through an inlet. The drying air removes moisture from the granules, reducing their moisture content to the desired level. The drying process is facilitated by the impeller's rotation and the unique design of the Rapid Mixer Granulator, which promotes efficient heat and mass transfer.

Final Mixing:

Once the granules reach the desired moisture level, the drying air is turned off, and the impeller continues rotating. The granules undergo a final mixing stage, where they are further homogenized and cooled down to ambient temperature.

Discharge:

The granulated and dried material is discharged from the Rapid Mixer Granulator through a discharge chute or valve. The discharged granules can then be further processed, such as milling or tableting, as per the specific requirements of the formulation.

Cleaning and Maintenance:

After use, the Rapid Mixer Granulator is thoroughly cleaned to remove any residual material and ensure proper hygiene. Routine maintenance tasks, such as inspecting impeller blades, cleaning filters, and lubricating moving parts, are also performed as needed.

It is important to note that the specific utilization and process of a Rapid Mixer Granulator may vary depending on the manufacturer, model, and the specific requirements of the wet granulation process. However, the integration of mixing, wet granulation, and drying in a single unit makes Rapid Mixer Granulators an efficient and versatile equipment to produce high-quality granules in the pharmaceutical industry.

GROSS CAPACITY (LTRS)	WORK CAPACITY (LTRS)
25	20
100	80
150	120
250	200
400	320
600	480
1000	600



MULTI MILL

The multi mill is a versatile equipment widely used in various industries for several processes, including particle size reduction, milling, mixing, and granulation. Here's a detailed overview of the utilization of multi mills and the associated processes:



Particle Size Reduction:

Multi mills are commonly used for reducing the particle size of solid materials. The material is fed into the multi mill through a hopper, and it passes through a series of rotating blades or beaters. The rotating blades create impact, cutting, and shearing forces, which effectively reduce the size of the particles. This process helps achieve a uniform particle size distribution and improves the flow properties of powders.

Milling:

Multi mills are utilized for milling applications where the goal is to achieve fine particles or a specific particle size range. The material is introduced into the mill, and the rotating blades or beaters within the mill break down the material through cutting, impact, and shearing actions. Milling is commonly performed on materials such as pharmaceutical ingredients, chemicals, food products, and cosmetic powders.

Mixing and Blending:

Multi mills are effective for mixing and blending different materials to achieve homogeneity. The material to be mixed is fed into the mill, and the rotating blades create a tumbling and shearing action, ensuring thorough blending and distribution of the components. This process is used in industries such as pharmaceuticals, food, and chemicals to produce blends, granules, and solid dosage forms.

Granulation:

Multi mills find application in the granulation process, which involves the formation of granules from powders or the enlargement of existing granules. The multi mill can be used to break down larger granules into smaller particles or to blend and mix the powders before the granulation process. Granulation is important for achieving uniform granule size, improving flow properties, and facilitating compression or further processing of the granules.

Size Separation:

Multi mills can be equipped with different mesh screens or perforated plates to achieve size separation of particles. The screens allow particles of a specific size to pass through while retaining larger particles. This process helps obtain the desired particle size distribution and separate particles for further processing or quality control purposes.

Wet Milling:

Multi mills can also be used for wet milling applications where a liquid is added to the material being processed. The wet milling process helps in reducing particle size, enhancing dissolution rates, and improving the bioavailability of pharmaceutical compounds.

It is important to note that the specific utilization and process of a multi mill may vary based on the industry, application, and the nature of the materials being processed. The versatility of multi mills makes them suitable for a wide range of particle size reduction, milling, mixing, and granulation applications across various industries.

MODEL	OUTPUT KGS/HR.	ROTOR SPEED	MOTOR HP
MML- 1HP	0-100 Kgs/Hr.	O-2800 RPM	1 HP
MML- 3HP	O-250 Kgs/Hr.	O-2800 RPM	3 HP
MML- 5HP	0-500 Kgs/Hr.	O-2800 RPM	5 HP
MML- 7.5HP	0-750 Kgs/Hr.	O-2800 RPM	7.5 HP



COLLOID MILL

The colloid mill is a versatile equipment that finds application in various industries for its ability to perform processes like particle size reduction, dispersion, emulsification, and homogenization. Here is an overview of the utilization of colloid mills and the corresponding processes:



Particle Size Reduction:

Colloid mills are used to reduce the size of solid particles suspended in a liquid or semi-solid medium. The high-speed rotor-stator action generates intense shear forces that break down the particles, resulting in smaller particle sizes. This process is commonly applied in industries such as food, pharmaceuticals, and chemicals.

Dispersion:

Colloid mills are effective in dispersing and distributing solid particles or immiscible liquids within a continuous liquid medium. The shear forces created by the rotor-stator action break down agglomerates and ensure uniform dispersion of the dispersed phase throughout the continuous phase. This is useful in applications such as paint, coatings, and ink production.

Emulsification:

Colloid mills are widely used for emulsification, which involves the dispersion of one immiscible liquid (the dispersed phase) within another continuous liquid phase. By subjecting the two phases to intense shear forces, the colloid mill promotes the formation of a stable emulsion. This process is used in industries like food, pharmaceuticals, cosmetics, and chemical manufacturing.

Homogenization:

Colloid mills are employed for homogenization, which involves reducing the size of particles or droplets within a liquid to achieve uniform distribution. This is particularly important in applications where product consistency and stability are crucial, such as in the production of creams, lotions, and sauces in the food and cosmetic industries.

MODEL	BPCM - 3HP	BPCM - 5HP
OUTPUT	120 -12,000 KGS	120 -12,000 KGS
PARTICLE SIZE REDUCTION	5 TO 10 MICRONS	5 TO 10 MICRONS
HOPPER CAPACITY	15 LTS	15 LTS
MOTOR	3 HP. 2820 RPM. 440 V, 50 CS/ 3 PH	5 HP. 2820 RPM. 440 V, 50 CS/ 3 PH
HEIGHT	1200	1200
FLOOR SPACE	410 X 680 MM	410 X 680 MM
NET WT.	130 KG	160 KG
GROSS WT.	220 KG	240 KG



VIBRO SHIFTER

Vibro shifters, also known as vibratory sieves or vibrating screens, are widely used in various industries for the separation, grading, and screening of solid materials. Here's an overview of the utilization of vibro shifters and the associated processes:



Particle Size Separation:

Vibro shifters are primarily used for particle size separation, where materials are sorted into different size fractions. The material is fed onto the vibrating screen, and the vibratory motion of the screen deck causes the particles to pass through the screen openings based on their size. This process helps in obtaining uniform particle size distribution and separating materials into different grades or classifications.

Grading and Sorting:

Vibro shifters are effective in grading and sorting materials based on their size or other characteristics. By using screens with different mesh sizes or opening sizes, the vibro shifter can separate materials into multiple fractions or grades. This is useful in industries such as food, pharmaceuticals, and chemicals, where materials need to be classified based on size or quality.

Scalping and Dedusting:

Vibro shifters can be used for scalping or removing oversized or undersized particles from a material stream. This helps in ensuring the desired particle size range and removing unwanted impurities. Additionally, the vibrating action of the screen can assist in dedusting or removing fine particles or dust from the material.

Liquid Solid Separation:

In some applications, vibro shifters are employed for the separation of solid particles from liquid suspensions. The vibrating screen effectively separates the solid particles from the liquid, allowing for the recovery of valuable solids or the clarification of liquids.

The process of utilizing a vibro shifter typically involves the following steps:

Material Preparation:

The material to be screened is prepared and made ready for introduction onto the vibrating screen. This may involve grinding, crushing, or conditioning the material, depending on the specific application.

Adjusting Parameters:

The operating parameters of the vibro shifter, such as vibration amplitude, screen deck inclination, and screen mesh size, are adjusted based on the desired separation or grading requirements and the characteristics of the material being processed.

Loading:

The prepared material is fed onto the vibrating screen through a feed hopper or conveyor. The material evenly spreads across the screen surface.



Vibratory Motion:

The vibro shifter is activated, and the screen deck starts vibrating at a controlled frequency and amplitude. The vibratory motion of the screen causes the material to stratify and separate based on particle size or other characteristics.

Separation and Grading:

The material passes through the screen openings, and the desired fractions or grades are collected in separate discharge outlets or containers. Oversized or undersized particles are either collected separately or redirected for further processing.

Monitoring and Control:

The separation process is monitored to ensure the desired separation efficiency and product quality. Adjustments to the operating parameters can be made if necessary.

Cleaning and Maintenance:

After use, the vibro shifter is cleaned thoroughly to remove any residual material and ensure proper hygiene. Routine maintenance tasks, such as screen inspection, tightening of fasteners, and lubrication, are also performed as needed.

The utilization and specific process of a vibro shifter may vary depending on the industry, application, and the nature of the materials being processed. However, the versatility, efficiency, and customizable features of vibro shifters make them valuable equipment for particle size separation, grading, and liquid-solid separation processes in various industries.

MODEL	12"	20"	30"	36"	48"
SCREENS	SS 316/304	SS 316/304	SS 316/304	SS 316/304	SS 316/304
SCREENS DIA.	335 mm	520 mm	750 mm	950 mm	1220 mm
CAPACITY/HOUR*	20 to 70 kgs	20 to 140 kgs	30 to 250 kgs	820 to 300 kgs	200 to 400 kgs
CHARGING HEIGHT	1080 mm	1200 mm	1200 mm	1200 mm	1050 mm
DISCHARGE HEIGHT	625 mm	750 mm	750 mm	750 mm	500 mm
ELECTRIC MOTOR	O.25 HP Vibratory motor	O.25 HP Vibratory motor	O.5 HP Vibratory motor	O.5 HP Vibratory motor	1.5 HP Vibratory motor



FLUID BED DRYER (FBD)

Fluid bed dryers are extensively used in the pharmaceutical, chemical, food processing, and other industries for the drying and granulation of solid materials. Here is an overview of the utilization of fluid bed dryers and the associated process:



Loading:

The solid material to be dried or granulated is loaded into the fluid bed dryer. The material is spread evenly on a perforated bed or plate, forming a fluidized layer.

Preheating:

The fluid bed dryer is initially preheated to the desired operating temperature. This helps create the necessary conditions for the drying or granulation process.

Fluidization:

Once the material is loaded, air or gas is introduced into the fluid bed dryer through a distributor plate or nozzles located at the bottom of the drying chamber. The upward flow of air or gas causes the material to become fluidized, forming a "fluid bed." This fluidization facilitates enhanced heat and mass transfer between the solid particles and the drying medium.

Drying or Granulation Process:

During the fluidization process, the heated air or gas passes through the fluid bed, absorbing moisture from the solid material. The moisture-laden air or gas is then expelled from the drying chamber through exhaust vents. The continuous flow of heated air or gas ensures efficient and uniform drying or granulation of the material.

Temperature and Airflow Control:

The temperature and airflow within the fluid bed dryer are carefully controlled to achieve the desired drying or granulation results. The temperature is adjusted based on the specific material requirements and heat sensitivity. The airflow rate is regulated to maintain the appropriate fluidization and drying conditions.

Particle Movement and Agglomeration:

As the material undergoes fluidization, the particles may collide, leading to particle movement and agglomeration. This movement and agglomeration can contribute to the granulation process if desired. Granulating agents or binders may be added to facilitate particle agglomeration and the formation of granules.

Monitoring and Control:

The drying or granulation process is closely monitored to ensure that the desired temperature, airflow, and processing time are maintained. Automated controls or manual adjustments are employed to regulate these parameters throughout the drying or granulation cycle.

Cooling and Discharge:

Once the desired moisture content or granulation size is achieved, the fluid bed dryer may be cooled down using ambient air or a separate cooling system. After cooling, the dried or granulated material is discharged from the fluid bed dryer through a discharge chute or a separate outlet.

Cleaning and Maintenance:

After use, the fluid bed dryer is thoroughly cleaned to remove any residual material and ensure proper hygiene. Routine maintenance tasks, such as cleaning filters, inspecting airflow distributors, and lubricating moving parts, are also performed as needed.



It is important to note that the specific utilization and process of a fluid bed dryer may vary depending on the manufacturer, model, and the specific requirements of the drying or granulation process. However, the efficient heat and mass transfer, uniform processing, and versatility make fluid bed dryers valuable equipment for drying and granulating a wide range of solid materials in various industries.

MODEL	15	30	60	120	200	250	300	500
CONTAINER VOLUME : LITERS	18	100	200	380	650	800	980	1700
BATCH CAPACITY IN KG	5-8	30-40	60-70	120-140	200-225	250-280	300-300	500-500
MOTOR H.P.	3	5	10	15	20	25	30	60
HEATINH LOAD : KW FOR ELECTRICAL HEATING APPROX. STEAM	9	18	36	54	ELECTRICAL HEATING NOT RECOMMENDED.			
CONSUMPTION KGS./HR. AT STEAM PRESSURE 3KG/CM2	15	25	50	100	160	200	250	430



AIR TRAY DRYER (ATD)

Tray dryers are commonly used in various industries, including pharmaceuticals, chemicals, food processing, and more, for the drying of solid materials. Here's an overview of the utilization of tray dryers and the associated process:



Loading:

The solid material to be dried is spread evenly on trays or shelves inside the tray dryer. The trays are typically made of perforated or mesh material to allow proper airflow and heat transfer.

Air Circulation:

The tray dryer is equipped with a heating system and a fan. The heating system generates hot air, which is circulated through the drying chamber by the fan. The hot air passes over and through the trays, facilitating the drying process.

Temperature Control:

The temperature inside the tray dryer is controlled to ensure optimal drying conditions for the specific material being processed. The temperature can be adjusted based on the drying requirements and the characteristics of the material.

Drying Process:

As the hot air circulates through the trays, it absorbs moisture from the solid material, causing evaporation. The moisture-laden air is then expelled from the drying chamber through vents or exhausts. The drying process continues until the desired moisture content is achieved.

Airflow Adjustment:

The tray dryer may have provisions for adjusting the airflow within the drying chamber. This helps control the drying rate and ensures uniform drying across all trays. Proper airflow distribution minimizes drying imbalances and promotes consistent drying of the material.

Monitoring and Control:

The drying process is monitored to ensure that the desired drying parameters, such as temperature, airflow, and drying time, are maintained. Automated controls or manual adjustments may be used to regulate these parameters throughout the drying cycle.

Cooling and Discharge:

Once the drying process is complete, the trays may be cooled down using ambient air or a separate cooling system. This helps prevent heat damage to the dried material. After cooling, the dried material can be discharged from the trays for further processing or packaging.

Cleaning and Maintenance:

After use, the tray dryer is thoroughly cleaned to remove any residual material and ensure proper hygiene. Routine maintenance tasks, such as cleaning filters, inspecting heating elements, and lubricating moving parts, are also performed as needed.



It is important to note that the specific utilization and process of a tray dryer may vary depending on the manufacturer, model, and the specific requirements of the drying process. However, the controlled temperature, uniform airflow, and efficient drying capabilities of tray dryers make them valuable equipment for drying solid materials in various industries.

MODEL	TD- 12	TD- 24	TD- 48	TD- 96	TD- 192
LOADING CAPACITY	12 TRAYS	24 TRAYS	48 TRAYS	96 TRAYS	192 TRAYS
NO. OF DOORS	ONE	ONE	ONE	TWO	TWO
NO.OF BLOWERS	ONE	ONE	ONE	TWO	FOUR
NO OF MOTORS/H.P.	1/0.5 H.P	1/0.5 H.P	1/0.5 H.P	2/1 H.P	4/1 H.P EACH
3 PHASE 415 VOLTS	3 PHASE 415 V	3 PHASE 415 V	3 PHASE 415 V	3 PHASE 415 V	3 PHASE 415 V
ELECTRICAL HEATING LOAD FOR 100°C/200°C/300°C	3Kw/6Kw /9Kw	6Kw/9Kw/ 12Kw	9Kw/15Kw/ 18Kw	15Kw/21Kw/ 27Kw	36Kw/42Kw/ 48Kw
STEAM HEATER NO.OF COILS	2	2	2	2	2
STEAM PRESSURE	3.3 Kg /cm2	3.3 Kg /cm2	3.3 Kg /cm2	3.3 Kg /cm2	3.3 Kg /cm2
STEAM CONSUMPTION	25 LBS/ HR	45 LBS/ HR	60 LBS/ HR	80 LBS/ HR	120 LBS/ HR
INSULATION IN MM 100°C/200°C/300°C	50 / 75/ 75	50 / 75/ 75	50 / 75/ 75	50 / 75/ 75	50 / 75/ 75
NO. OF TROLLEYS	RACK SYSYTEM	RACK SYSYTEM	ONE	TWO	FOUR
TRAY SIZES	812 x 406 x 31	812 x 406 x 31	812 x 406 x 31	812 x 406 x 31	812 x 406 x 31
TROLLEY DIMENSIONS	FIXED RACKS	FIXED RACKS	840 x 960 x 1780	840 x 960 x 1780	840 x 960 x 1780



VACUUM TRAY DRYER (VTD)

Vacuum tray dryers are widely used in industries such as pharmaceuticals, chemicals, food processing, and more, for the drying of heat-sensitive materials or those that require a low-pressure environment.

Here is an overview of the utilization of vacuum tray dryers and the associated process:



Loading:

The solid material to be dried is spread evenly on trays or shelves inside the vacuum tray dryer. The trays are typically made of heat-resistant material and can withstand the vacuum environment.

Sealing:

Once the trays are loaded, the vacuum tray dryer is sealed to create a low-pressure or vacuum environment inside the drying chamber. The sealing ensures that the drying process occurs under controlled pressure conditions.

Evacuation:

The vacuum pump or system connected to the dryer removes air and gases from the drying chamber, creating a reduced-pressure environment. As the pressure decreases, the boiling point of moisture in the material decreases as well, facilitating the removal of moisture at lower temperatures.

Heating:

Once the desired vacuum level is achieved, the heating system of the vacuum tray dryer is activated. Heat is applied to the trays through conduction, convection, or radiation, depending on the specific design of the dryer. The heat helps evaporate the moisture from the material.

Moisture Removal:

The vacuum environment and the application of heat cause the moisture in the solid material to vaporize. The vapor is removed from the drying chamber by the vacuum system, which helps maintain a low-pressure environment throughout the drying process.

Temperature and Pressure Control:

The temperature and pressure inside the vacuum tray dryer are carefully controlled to ensure gentle and efficient drying. The temperature is maintained at a level suitable for the specific material being dried, considering its heat sensitivity or degradation point. The pressure is regulated to optimize the drying process and prevent moisture condensation.

Monitoring and Control:

The drying process is monitored to ensure that the desired temperature, pressure, and drying time are maintained. Automated controls or manual adjustments may be used to regulate these parameters throughout the drying cycle.

Cooling and Releasing Vacuum:

Once the drying process is complete, the trays may be cooled down using ambient air or a separate cooling system. After cooling, the vacuum within the drying chamber is released gradually, allowing the trays to be safely opened and the dried material to be discharged.

Cleaning and Maintenance:

After use, the vacuum tray dryer is thoroughly cleaned to remove any residual material and ensure proper hygiene. Routine maintenance tasks, such as cleaning filters, inspecting vacuum pumps, and lubricating moving parts, are also performed as needed.



It is important to note that the specific utilization and process of a tray dryer may vary depending on the manufacturer, model, and the specific requirements of the drying process. However, the controlled temperature, uniform airflow, and efficient drying capabilities of tray dryers make them valuable equipment for drying solid materials in various industries.

MODEL	SHELVES NOS	TRAY NOS	TRAY ON EACH SHELF	WATER HEATING SYSTEM				VACUUM PUMP
				HEATER KW	CIRC. PUMP	HEATER KW	CIRC. PUMP	
VTD 06	6+1 DUMMY	6	1	3	0.5	6	0.5	2/3
VTD 12	6+1 DUMMY	12	2	6	0.75	9	1	3
VTD 24	12+1 DUMMY	24	2	12	0.75	18	2	5
VTD 36	12+1 DUMMY	36	3	15	1	24	2	5/7.5
VTD 48	16+1 DUMMY	48	3	18	1	36	3	7.5
VTD 96	16+1 DUMMY	96	6	30	1/2	48	3	2/3



ROTOCONE VACUUM DRYER (RCVD)

Rotocone vacuum dryers, also known as rotary vacuum dryers, are widely used in industries such as pharmaceuticals, chemicals, food processing, and more, for the drying of heat-sensitive materials or those that require a low-pressure environment. Here is an overview of the utilization of rotocone vacuum dryers and the associated process:



Loading:

The solid material to be dried is loaded into the rotocone vacuum dryer. The material is spread evenly on the heated cone-shaped rotating drum or vessel, which is typically jacketed for heat transfer.

Sealing:

Once the material is loaded, the rotocone vacuum dryer is sealed to create a low-pressure or vacuum environment inside the drying chamber. The sealing ensures that the drying process occurs under controlled pressure conditions.

Vacuum Generation:

A vacuum pump or system connected to the dryer evacuates the air and gases from the drying chamber, creating a reduced-pressure or vacuum environment. This helps lower the boiling point of moisture in the material, facilitating its removal at lower temperatures.

Heating:

The rotocone vacuum dryer is equipped with a heating system that heats the cone-shaped drum or vessel. Heat is applied to the walls of the drum through conduction, which in turn heats the material loaded inside. The heat helps evaporate the moisture from the material.

Rotation:

The cone-shaped drum or vessel of the rotocone vacuum dryer is set in motion, rotating slowly and gently. The rotation promotes intimate contact between the heated drum walls and the material, ensuring efficient heat transfer and uniform drying.

Moisture Removal:

As the heated drum rotates, the moisture in the solid material vaporizes. The vacuum environment facilitates the removal of the vaporized moisture, which is extracted from the drying chamber by the vacuum system. This continuous vapor removal aids in the drying process.

Temperature and Pressure Control:

The temperature and pressure inside the rotocone vacuum dryer are carefully controlled throughout the drying process. The temperature is maintained at a level suitable for the specific material being dried, considering its heat sensitivity or degradation point. The pressure is regulated to optimize the drying process and prevent moisture condensation.

Monitoring and Control:

The drying process is closely monitored to ensure that the desired temperature, pressure, and drying time are maintained. Automated controls or manual adjustments are used to regulate these parameters throughout the drying cycle.

Cooling and Discharge:

Once the desired moisture content is achieved, the rotocone vacuum dryer may be cooled down using ambient air or a separate cooling system. After cooling, the dried material is discharged from the dryer, usually through a discharge chute or a separate outlet.

Cleaning and Maintenance:

After use, the rotocone vacuum dryer is thoroughly cleaned to remove any residual material and ensure proper hygiene. Routine maintenance tasks, such as inspecting heating elements, cleaning filters, and lubricating moving parts, are also performed as needed.

It is important to note that the specific utilization and process of a rotocone vacuum dryer may vary depending on the manufacturer, model, and the specific requirements of the drying process. However, the controlled low-pressure environment, gentle drying conditions, and heat-sensitive material compatibility make rotocone vacuum dryers' valuable equipment for drying a wide range of materials in various industries.



DOUBLE CONE BLENDER (DCB)

Double cone blenders, also known as double cone mixers, are commonly used in industries such as pharmaceuticals, chemicals, food processing, and more, for the blending and mixing of powders or granular materials. Here is an overview of the utilization of double cone blenders and the associated process:



Loading:

The powders or granular materials to be blended are loaded into the double cone blender. The material is spread evenly inside the blending chamber, which consists of two cone-shaped sections.

Mixing Process:

Once the material is loaded, the double cone blender is set in motion. The blending chamber rotates around its central axis, causing the materials to tumble and mix. The rotation of the blender ensures that the materials move from one end of the cone to the other, facilitating thorough blending.

Blending Time:

The blending process continues for a predetermined period, allowing the materials to mix thoroughly. The blending time may vary depending on the specific requirements of the blending process and the characteristics of the materials being blended.

Optional Features:

Some double cone blenders may include additional features to enhance the blending process. These features can include internal baffles or mixing baffles within the blending chamber, which help break up agglomerates and promote uniform mixing.

Material Discharge:

After the blending process is complete, the double cone blender comes to a stop. The blended material can be discharged from the blender through an outlet or discharge valve located at the bottom of the blending chamber. The discharge is typically controlled manually or automatically.

Cleaning and Maintenance:

After use, the double cone blender is cleaned thoroughly to remove any residual material and ensure proper hygiene. Routine maintenance tasks, such as inspecting moving parts, cleaning filters, and lubricating components, are also performed as needed.

It is important to note that the specific utilization and process of a double cone blender may vary depending on the manufacturer, model, and the specific requirements of the blending process. However, the rotational motion of the double cone blender ensures efficient and uniform mixing of powders or granular materials, making it a valuable equipment for blending applications in various industries.

MODEL	ODEL CAPACITY WORKING CAPACITY		BLENDER RPM
DCB 100	100 LTRS GROSS	60 LTRS	RPM 5-22
DCB 150	150 LTRS GROSS	90 LTRS	RPM 5-22
DCB 200	200 LTRS GROSS	120 LTRS	RPM 2-16
DCB 250	250 LTRS GROSS	150 LTRS	RPM 2-16
DCB 300	300 LTRS GROSS	180 LTRS	RPM 2-16
DCB 500	500 LTRS GROSS	300 LTRS	RPM 2-12
DCB 600	600 LTRS GROSS	400LTRS	RPM 2-12
DCB 1000	1000 LTRS GROSS	600 LTRS	RPM 1-8
DCB 1500	1500 LTRS GROSS	900 LTRS	RPM 1-8
DCB 2000	2000 LTRS GROSS	1500 LTRS	RPM 6
DCB 3000	3000 LTRS GROSS	2100 LTRS	RPM 4



OCTAGONAL BLENDER (OCB)

Octagonal blenders, also known as octagonal mixers or octagonal tumblers, are commonly used in various industries, including pharmaceuticals, chemicals, food processing, and more, for the blending and mixing of powders or granular materials. Here is an overview of the utilization of octagonal blenders and the associated process:



Loading:

The powders or granular materials to be blended are loaded into the octagonal blender. The material is spread evenly inside the blending chamber.

Mixing Process:

Once the material is loaded, the octagonal blender is set in motion. The blending chamber rotates around its central axis, causing the materials to tumble and mix. The octagonal shape of the blender provides efficient and uniform blending as the materials move in multiple directions.

Blending Time:

The blending process continues for a predetermined period, allowing the materials to mix thoroughly. The blending time may vary depending on the specific requirements of the blending process and the characteristics of the materials being blended.

Optional Features:

Some octagonal blenders may include additional features to enhance the blending process. These features can include intensifier bars or baffles inside the blending chamber to further promote mixing and reduce blending time.

Material Discharge:

After the blending process is complete, the octagonal blender comes to a stop. The blended material can be discharged from the blender through an outlet or discharge valve located at the bottom of the blending chamber. The discharge is typically controlled manually or automatically.

Cleaning and Maintenance:

After use, the octagonal blender is cleaned thoroughly to remove any residual material and ensure proper hygiene. Routine maintenance tasks, such as inspecting moving parts, cleaning filters, and lubricating components, are also performed as needed.

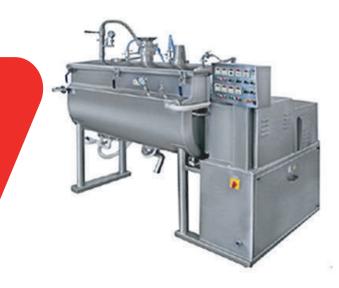
It is important to note that the specific utilization and process of an octagonal blender may vary depending on the manufacturer, model, and the specific requirements of the blending process. However, the octagonal shape of the blender, along with its rotational motion, provides efficient and uniform mixing of powders or granular materials, making it a valuable equipment for blending applications in various industries.

MODEL	CAPACITY	WORKING CAPACITY	BLENDER RPM
OCB 100	100 LTRS GROSS	60 LTRS	RPM 5-22
OCB 150	150 LTRS GROSS	90 LTRS	RPM 5-22
OCB 200	200 LTRS GROSS	120 LTRS	RPM 2-16
OCB 250	250 LTRS GROSS	150 LTRS	RPM 2-16
OCB 300	300 LTRS GROSS	180 LTRS	RPM 2-16
OCB 500	500 LTRS GROSS	300 LTRS	RPM 2-12
OCB 600	600 LTRS GROSS	400LTRS	RPM 2-12
OCB 1000	1000 LTRS GROSS	600 LTRS	RPM 1-8
OCB 1500	1500 LTRS GROSS	900 LTRS	RPM 1-8
OCB 2000	2000 LTRS GROSS	1500 LTRS	RPM 6
OCB 3000	3000 LTRS GROSS	2100 LTRS	RPM 4



RIBBON BLENDER

Ribbon blenders, also known as ribbon mixers, are widely used in industries such as pharmaceuticals, chemicals, food processing, and more, for the blending and mixing of dry powders, granules, or pastes. Here is an overview of the utilization of ribbon blenders and the associated process:



Loading:

The materials to be blended are loaded into the ribbon blender. The material is typically added through the top of the blender, and care is taken to distribute it evenly.

Mixing Process:

Once the materials are loaded, the ribbon blender is activated. The mixing process begins as the agitator, consisting of inner and outer helical ribbons, rotates. The rotation of the ribbons moves the materials in multiple directions, creating a fluidized mixing action.

Blending Time:

The blending process continues for a predetermined period, allowing the materials to mix thoroughly. The blending time may vary depending on the specific requirements of the blending process and the characteristics of the materials being blended.

Optional Features:

Some ribbon blenders may include additional features to enhance the blending process. These features can include adjustable baffles or spray bars that aid in the dispersion of liquids or additives for more uniform blending.

Material Discharge:

After the blending process is complete, the ribbon blender is stopped. The blended material can be discharged from the blender through an outlet or discharge valve located at the bottom. The discharge is typically controlled manually or automatically.

Cleaning and Maintenance:

After use, the ribbon blender is thoroughly cleaned to remove any residual material and ensure proper hygiene. Routine maintenance tasks, such as inspecting ribbons, checking bearings, and lubricating components, are also performed as needed.

It is important to note that the specific utilization and process of a ribbon blender may vary depending on the manufacturer, model, and the specific requirements of the blending process. However, the ribbon blender's helical ribbons and fluidized mixing action provide efficient and uniform blending of dry powders, granules, or pastes, making it a valuable equipment for blending applications in various industries.

SPECIFICATION	DESCRIPTIONS
CAPACITY	50 - 10,000 LTRS
MATERIAL OF CONSTRUCTION	STAINLESS STEEL/ MILD STEEL
MIXING SPEED	30- 60 RPM
MOTOR POWER	2- 30 HP
AGITATOR TYPE	DOUBLE HELICAL RIBBION
DISCHARGE VALVE	PNEUMEATIC/ MANUAL
TROUGH SHAPE	U- SHAPED
TROUGH COVER	PROVIDED
LOADING TYPE	TOP LOADING
MIXING TIME	10- 30 MINUTES
DRIVE TYPE	GEARBOX /DIRECT DRIVE
OPERATING TEMPERATURE	UPTO 120°C
CONTROL PANEL	PROVIDED WITH NECESSARY ELECTRICAL & SAFETY CONTROLS
OPTIONAL FEATURES	JACKETED TROUGH, VARIABLE SPEED DRIVE , PLC CONTROL, DUST COLLECTOR



INLINE HOMOGENIZER

The inline homogenizer is a versatile equipment used in various industries for processes such as mixing, emulsification, dispersing, and particle size reduction. Here's an overview of the utilization of inline homogenizers and the associated processes:



Mixing:

Inline homogenizers are commonly used for mixing different components or ingredients to achieve homogeneity. The materials are fed into the homogenizer through the inlet, and they pass through the rotor-stator assembly. The high shear forces generated by the rotating rotor and stationary stator create intense turbulence, resulting in thorough mixing of the components.

Emulsification:

Inline homogenizers are effective in emulsifying immiscible liquids to form stable emulsions. The emulsion process involves breaking down one liquid phase into small droplets and dispersing them within another liquid phase. The intense shear forces and turbulence generated by the homogenizer facilitate the breakup and dispersion of the immiscible phases, resulting in a fine and stable emulsion..

Dispersing:

Inline homogenizers are utilized for dispersing solid particles or agglomerates into a liquid medium. The solid particles are introduced into the liquid stream, and as they pass through the rotor-stator assembly, they undergo intense shear forces, resulting in the breakdown of agglomerates & achieving a uniform dispersion of the particles within the liquid.

Particle Size Reduction:

Inline homogenizers can be used for reducing the particle size of solid materials suspended in a liquid medium. The solid particles are subjected to intense shear forces and turbulence as they pass through the homogenizer, resulting in the desired particle size reduction. This process is commonly employed in applications where a narrow particle size distribution or increased surface area is required

Cell Disruption and Lysis:

Inline homogenizers are used in biological and biotechnological applications for cell disruption and lysis. The intense shear forces exerted by the homogenizer effectively rupture cell membranes, releasing intracellular components such as proteins, enzymes, and nucleic acids.

The utilization & specific process of an inline homogenier may vary depending on the industry, application, & the nature of the materials being processed. However, the versatility, efficiency, and customizable features of inline homogenizers make them suitable for a wide range of mixing, emulsification, dispersing, and particle size reduction applications across various industries.



COATING PAN

Coating pans, also known as coating machines or coating systems, are widely used in the pharmaceutical, food, and chemical industries for the application of coatings to solid products. Here's an overview of the utilization of coating pans and the associated process:



Coating Application:

The primary purpose of a coating pan is to apply a uniform coating onto solid products. The coating can serve various purposes, such as adding a protective layer, improving appearance, providing taste masking, or enhancing the product's stability.

Substrate Preparation:

Before the coating process, the substrate or core material is prepared. This may involve shaping the material into desired forms, such as tablets, pellets, or granules, and drying them if necessary.

Coating Material Preparation:

The coating material is prepared separately, which typically consists of a coating solution or suspension. The coating solution may contain ingredients such as film-forming polymers, plasticizers, colorants, and other additives, depending on the desired coating properties and functionality.

Loading and Preheating:

The substrate or core material is loaded into the coating pan, which is typically a rotating cylindrical drum or pan. Prior to applying the coating, the pan may be preheated to ensure optimal coating adhesion.

Coating Process:

The coating material is sprayed or poured onto the moving substrate while the pan is rotating. The coating material is evenly distributed over the substrate due to the centrifugal force generated by the rotating pan. The pan's shape and internal baffles or spray nozzles help ensure uniform coating distribution.

Drying or Curing:

After the coating application, the coated product may undergo a drying or curing process to remove solvent or water and allow the coating to solidify and adhere properly to the substrate. This can be achieved by applying heated air to the product while it continues to rotate in the coating pan.

Optional Repeating Coating Layers:

In some cases, multiple coating layers may be required. This process involves applying a new layer of coating material after the initial layer has dried or cured. The repeated coating steps help achieve the desired coating thickness or functionality.

Cooling and Discharge:

Once the coating process is complete, the coated product is cooled to room temperature, either by natural cooling or forced air cooling. The coated product is then discharged from the coating pan, usually through a discharge chute or a separate outlet.

Cleaning and Maintenance:

After use, the coating pan is thoroughly cleaned to remove any residual coating material and ensure proper hygiene. Routine maintenance tasks, such as inspection, lubrication, and adjustment of operating parameters, are also performed as needed.



It is important to note that the specific utilization and process of a coating pan may vary depending on the industry, application, and the nature of the materials being coated. However, the versatility, efficiency, and customizable features of coating pans make them valuable equipment for applying coatings to solid products in various industries.

MODEL NO.	BPCP-24"	BPCP-36"	BPCP-48"	BPCP-72"
LOADING CAPACITY	25 KGS	60-80 KGS	100-120 KGS	200-250 KGS
DRIVE MOTOR HP 3 PH 50 C/S 415 V AC LINE	O.5 HP	1.00 HP	2.00 HP	7.5 HP
RPM OF PAN	12/24	12/36	12/30	5/10
HOT AIR BLOWER MOTOR HP 3 PH 50 C/S 415 V AC LINE	0.50	0.50	1.00	1.00
BLOWER CAPACITY MAXIMUM CFM	100	200	500	750
HEATER KW	1.5 KW	3 KW	4.5 KW	6 KW



AUTO COATER

Auto coaters, also known as automatic tablet coating machines, are widely used in the pharmaceutical industry for the coating of tablets, pellets, and other solid dosage forms. Here's an overview of the utilization of auto coaters and the associated process:



Substrate Loading:

The core tablets or pellets, which are typically uncoated, are loaded into the auto coater. The loading can be done manually or automatically through a feeding system.

Coating Material Preparation:

The coating material is prepared separately, which typically consists of a coating solution or suspension. The coating solution may contain ingredients such as film-forming polymers, plasticizers, colorants, and other additives, depending on the desired coating properties and functionality. The coating material may be prepared in a separate coating solution preparation vessel or in-line with the auto coater itself.

Pre-Processing:

Prior to the coating process, some auto coaters may have pre-processing steps, such as dust removal or dedusting, to ensure that the substrate tablets or pellets are clean and free from any surface contaminants.

Loading and Sealing:

The substrate tablets or pellets are transferred into the coating drum of the auto coater. The drum is then sealed to prevent any leakage of the coating material during the coating process.

Coating Process:

The coating material is sprayed onto the moving substrate tablets or pellets within the coating drum. The auto coater is equipped with a spraying system that includes spray guns or nozzles to distribute the coating material uniformly. The rotation of the drum ensures that the coating material is evenly distributed over the substrate tablets or pellets, resulting in a uniform coating.

Drying or Curing:

After the coating material is applied, the coated tablets or pellets undergo a drying or curing process to remove the solvent or water from the coating material. This can be achieved by passing heated air through the coating drum, which helps evaporate the solvent or water and solidify the coating.

Optional Repeating Coating Layers:

Depending on the desired coating thickness or functionality, multiple coating layers may be applied. After each layer is dried or cured, a new layer of coating material is sprayed onto the substrate tablets or pellets. This process can be repeated until the desired coating thickness or functionality is achieved.

Cooling and Discharge:

Once the coating process is complete, the coated tablets or pellets are cooled down to room temperature, either through natural cooling or forced air cooling. The coated products are then discharged from the coating drum, usually through a discharge chute or a separate outlet.

Cleaning and Maintenance:

After use, the auto coater is thoroughly cleaned to remove any residual coating material and ensure proper hygiene. Routine maintenance tasks, such as inspection, lubrication, and adjustment of operating parameters, are also performed as needed.

It is important to note that the specific utilization and process of an auto coater may vary depending on the manufacturer, model, and the specific requirements of the coating process. However, the automation, precision, and control offered by auto coaters make them valuable equipment for achieving consistent and uniform coating of tablets, pellets, and other solid dosage forms in the pharmaceutical industry.

MODEL	BPE 24"	BPE 36"	BPE 48"	BPE 60"
APPOX. WORKING CAPACITIES*	10 KGS	75 KGS	150 KGS	350 KGS
PAN DIAMETER	610 mm	915 mm	1220 mm	1575 mm
DRIVE MOTOR (FLAME PROOF)	1 HP	2 HP	3 HP	7.5 HP
EXHAUST FAN CAPACITY	350 CFM	1350 CFM	2750 CFM	6000 CFM



DUST COLLECTOR

Dust collectors are widely used in various industries to control and remove airborne dust particles and contaminants. Some common applications of dust collectors include:



Manufacturing and Industrial Processes:

Dust collectors are commonly used in manufacturing and industrial processes where dust, particles, or airborne contaminants are generated. This includes industries such as woodworking, metalworking, mining, pharmaceuticals, food processing, chemical processing, cement production, and many others. Dust collectors help to maintain a clean and safe working environment by capturing and filtering out dust and contaminants.

Health and Safety:

Dust collectors are essential for maintaining the health and safety of workers in industries where airborne dust particles can pose health risks. These particles may contain hazardous substances, such as silica, asbestos, or heavy metals. Dust collectors help to prevent the inhalation of these harmful particles by capturing them at the source and preventing their dispersion into the working environment.

Product Recovery:

In some industries, dust collectors are used for product recovery purposes. For example, in the food and pharmaceutical industries, where valuable powders or materials may be lost during processing, dust collectors can be employed to capture and collect these materials for reuse or further processing.

Cleanroom and Controlled Environments:

Dust collectors are utilized in cleanrooms and controlled environments to maintain stringent air quality standards. These environments are critical in industries such as electronics manufacturing, semiconductor fabrication, pharmaceutical production, and precision optics. Dust collectors help to control particulate contamination and ensure the cleanliness of these specialized environments.

These are just a few examples of the diverse applications of dust collectors. The specific type and configuration of the dust collector system can vary based on the industry, process requirements, and the type of dust or particulate matter being controlled.



IPC BINS

IPC (Intermediate Bulk Container) bins, also known as IBC bins, are widely used in industries such as pharmaceuticals, chemicals, and food processing for the storage, transport, and handling of bulk materials. Here is an overview of the utilization of IPC bins and the associated process:



Loading:

The bulk material, such as powders, granules, or solid materials, is loaded into the IPC bin. This can be done through the top opening of the bin using various methods, such as manual scooping, mechanical conveyors, or other transfer systems.

Containment and Sealing:

Once the material is loaded, the IPC bin is sealed to ensure containment and prevent any spillage or contamination during transport or handling. The bin is equipped with a secure lid or closure mechanism to maintain the integrity of the contents.

Transport and Handling:

The sealed IPC bin is then transported to its desired location, either manually or using material handling equipment, such as forklifts or pallet jacks. The bins are designed with suitable features for easy handling and compatibility with common transportation methods, such as stacking or palletizing.

Storage:

IPC bins can also be utilized for storage purposes. They are designed to stack securely, optimizing space utilization in warehouses or storage areas. The bins can be stored indoors or outdoors, depending on the requirements of the material being stored.

Dispensing:

When the material needs to be dispensed or transferred to downstream processes, the IPC bin is unsealed, and the material is discharged through the bottom outlet. This can be done using gravity flow or by connecting the bin to a discharge system, such as a conveyor or discharge chute.

Cleaning and Maintenance:

After use, the IPC bin is thoroughly cleaned to remove any residual material, ensuring proper hygiene, and preventing cross-contamination. Cleaning methods can include manual washing, high-pressure water cleaning, or the use of automated cleaning systems. Routine maintenance tasks, such as inspecting the bin's structural integrity and replacing worn-out parts, are also performed as needed.

IPC bins offer advantages such as easy handling, efficient storage, and effective containment of bulk materials. The specific utilization and process of IPC bins may vary depending on the industry, application, and specific requirements of the material being handled. However, their versatility and convenience make them an asset for storage, transport, and handling of bulk materials in various industries.



WFI / PW STORAGE TANKS

WFI (Water for Injection) and PW (Purified Water) storage tanks are essential components in pharmaceutical and biopharmaceutical manufacturing facilities. These tanks are used to store and distribute high-quality water for various processes. Here is an overview of the utilization of WFI/PW storage tanks and their associated processes:



Water Generation:

Water used for pharmaceutical applications goes through a rigorous purification process, which typically includes stages such as pre-filtration, reverse osmosis, ion exchange, and ultrafiltration. The purified water is then further treated to meet the specific quality requirements for WFI or PW.

Storage:

Once the water has been purified and meets the required quality standards, it is transferred to the WFI/PW storage tanks. These tanks are constructed from high-grade stainless steel or other suitable materials to ensure the integrity and cleanliness of the stored water. The tanks are designed to prevent contamination and maintain the water quality during storage.

Distribution:

The WFI/PW storage tanks are connected to a distribution system that supplies the water to various points of use within the manufacturing facility. This can include points of use for equipment cleaning, formulation, and other pharmaceutical processes that require high-quality water.

Monitoring and Control:

The WFI/PW storage tanks are equipped with monitoring and control systems to ensure the integrity and quality of the stored water. Parameters such as temperature, pressure, and conductivity are monitored, and alarms are triggered if any deviations are detected. The tanks may also have automated valves and flow meters to control the flow of water during distribution.

Cleaning and Maintenance:

Regular cleaning and maintenance of the WFI/PW storage tanks are crucial to prevent microbial growth and maintain water quality. Cleaning procedures typically involve the use of sanitizing agents and validated cleaning protocols. Routine maintenance tasks, such as inspection of tank surfaces, filters, and valves, are performed to ensure the proper functioning of the tanks.

Validation and Documentation:

WFI/PW storage tanks undergo validation processes to verify their performance and compliance with regulatory requirements. Documentation of the storage tank operations, maintenance activities, and any deviations or incidents is maintained as part of the facility's quality management system.

It is important to note that the specific utilization and process of WFI/PW storage tanks may vary depending on the facility, regulatory guidelines, and specific requirements of the pharmaceutical manufacturing processes. However, these tanks play a critical role in storing and delivering high-quality water for pharmaceutical applications, ensuring the integrity and safety of the final products.





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