



PHARMA MACHINERIES



FLUID BED PROCESSOR



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FLUID BED PROCESSOR LAB MODEL



RIDDHI 250 KGS. FLUID BED PROCESSOR (TOP SPRAY) GMP MODEL (RDFBP – 250) MACHINE



- **INTRODUCTION :**

RIDDHI Fluid Bed Process or includes drying, cooling, agglomeration, granulation and coating of particulate materials. It is ideal for heat sensitive and non heat sensitive products in Pharmaceuticals, Biotech, Nutraceuticals, Cosmetic, Chemicals, Biochemical, Food, Dairy, Confectionery, Agrochemical, Herbals, Ceramics, Detergents and Pharma Institutes.

Depending on the application required fluid bed Equipment can be configured into designs as follows :

- 1. The Fluid Bed Mixing and Drying Process :**

The Fluid Bed system has a bed of solid particles which are fluidized by passing a stream of air upward through a specially designed perforated sheet. The upward velocity of air is so maintained so as to slightly lift the solid particles and set them in motion. This motion can be utilized to bring about mixing as well as forward movement of the solids particles. The air is heated and the process hot air evaporates the fluid and dries the solids. Fines get agglomerated to larger granules particles thus providing large size

- 2. The Fluid Bed Processor with Top Spray for Agglomeration and Granulation Process :**

The process is used in fluid beds to form granules from a fine powder. The fluidized powder is wetted with fluid / binder / starch past by using top spraying system. The top spraying system provided with spraying nozzle and precise dosing peristaltic pump. The fluidized powder is wetted until liquid bridges are formed between particles. Segregation of powder doesn't take place as different powder is glued together on a micro scale. Since there is no impinging force in fluid bed equipments the granules are weak and having good solubility. Once the granules are made they are dried in the equipment using hot air. This technology used for formed granules for Tableting, capsule, dust free process, free flow properties, good dispensability and excellent solubility due to porous structure.

- **SALIENT FEATURES :**

1. Its design is as per GMP - Good Manufacturing Practices compliance.
2. All contact parts AISI 316 & non contact parts AISI 304.
3. High Mixing Precision, Short Batch Time, Problem free Cleaning and Residue Free Discharge.
4. Single piece construction & Integrated retarding chamber cum filter bag housing
5. Top Spraying system for Granulation.
6. Different Batch size capacity model available.
7. Granulation system with advance PLC controls system with HMI Touch screen.
8. Spraying system with atomized spraying gun and high precise flow peristaltic pump.
9. Sampling pot on product container.
10. Pneumatic Sealing of Filter Bag and Product container by inflatable silicon rubber tube.
11. Inlet Air handler with Air Filter - Micro and HEPA and Heat Exchanger.



- **SAFETY FEATURES :**

1. Explosion Flap ensures operator's safety during operation.
2. Earthing Points.
3. Various Inter locks of panel operations.

- **AIR HANDLING UNIT :**

A double skinned Air Handling Unit is provided with Filtration and Heat Exchanger for inlet air. Inside MOC will be SS 304 and outside will be MS duly painted. Sequence of arrangement will be 20 Micron Pre -filter, 5 Micron Fine Filter, Heat Exchanger and 0.3 Micron HEPA Filter.

- **OPERATING PANEL :**

The machine is operated through a user -friendly integrated control panel suitable for manual and automatic operation. The panel includes PLC & HMI Touch Screen . The material of construction of the panel shall be of AISI 304Q. The PLC & HMI Touch Screen will be of Schneider / Equivalent Make.

- **TECHNICAL SPECIFICATIONS :**

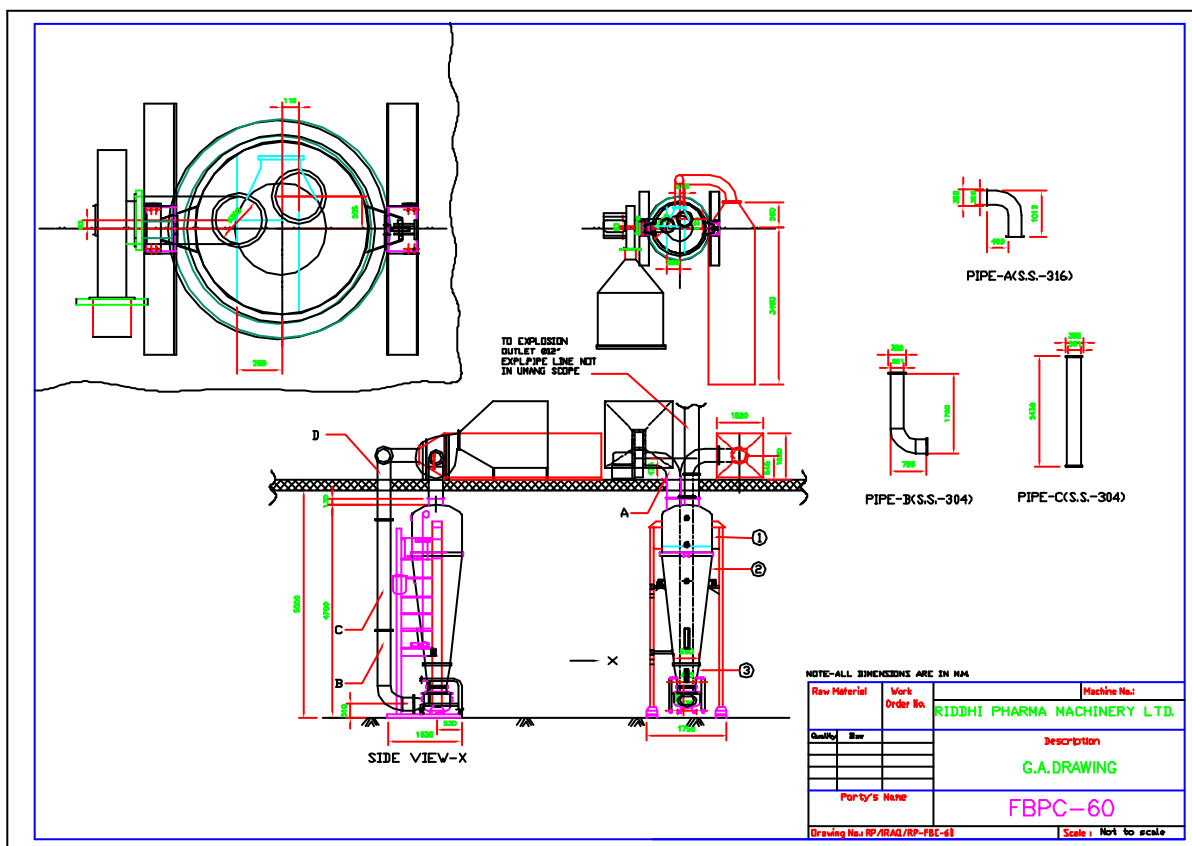
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|-------------------------------|--|
| 1. Model No. | : RDFBP – 250 (Top Spray) |
| 2. Type | : GMP & Non FLP. |
| 3. Batch Size Capacity | : 220 to 250 Kgs. depending upon material characteristics. |
| 4. Drying Temp. Range | : upto 70°C through Electric Heaters. |
| 5. Total Heater Load | : 81 k.W. |
| 6. No. of Spray Nozzles | : 1/3 Port. |
| 7. Peristaltic Pump | : 1 to 1000 ml. Capacity. |
| 8. Peristaltic Pump Make | : Ravel Hitek / Equivalent. |
| 9. Product Contact Parts | : S.S.316 Quality. |
| 10. Product Non Contact Parts | : S.S.304, Covered / Cladded. |
| 11. Compressed Air | : 6 Bar @ 20 CFM. |
| 12. Air Flow | : 5500 CFM. |
| 13. Blower Motor | : 40 HP / 415V / 3 Phase Non FLP Type. |
| 14. Blower Motor Make | : Crompton Greaves / Equivalent. |
| 15. Overall Dimensions | : 73" x 73" x 155"(H) – Approx. |



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TECHNICAL SPECIFICATIONS :

D.1	Machine Model No.	RDFBP – Lab.
D.2	Type	GMP & FLP
D.3	Purpose	For Wet Granulation & drying. Wet Granulation through top spray & drying through hot air stream at the base of the product container, filled with the material.
D.4	Batch Size Capacity	2 to 3 Kgs. depending upon material characteristics and other technical parameters.
D.5	Container Gross Volume Capacity	15 Litres Approx.
D.6	Product Contact Parts	S.S. 316 Q.
D.7	Product Non -contact Parts	S.S. 304 Q.
D.8	Material Charging & Discharging	Manually.
D.9	No. of Spray Nozzle	One No. (Top Spray)
D.10	Mode of Heating	Electric Heaters of S.S.304 Q quality.
D.11	Chamber Air Filtration	Finger Bag (P.P. Cloth Quality).
D.12	Solution Tank Gross Capacity	20 Litres
D.13	Peristaltic Pump	Single Head & Non FLP Type.
D.14	Gaskets	Food Grade / Silicone.
D.15	Air Inlet	Multi Stage Filtration (AHU) including HEPA.
D.16	Blower Capacity	650 CFM Approx.
D.17	Blower Motor	3 HP / 415 V / 3 Ph., Non FLP Type.
D.18	Total Power Required	15 k.W. Approx.
D.19	Required Compressed Air Pr.	3 to 4 Bar
D.20	Finishing	Contact Parts – Mirror, Non Con. Parts – Matt. & M.S. Parts – Painted.
D.21	Blower Motor Make	Crompton Greaves / Equivalent.
D.22	Peristaltic Pump Make	Ravel Hitek / Equivalent.
D.23	PLC with HMI Touch Screen Make	Schneider / Equivalent.
D.24	Switchgears & Accessories Make	Schneider / BCH / TEKNIC / Equivalent.
D.25	Spray Nozzle Make	Any Indian Make.
D.26	Pneumatic Fittings	Janatics / Equivalent.



RIDDHI PHARMA MACHINERY LTD.

Manufacturer & Exporters of Pharmaceutical Machineries

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