



Technical Data

MODEL	FBDG-10	FBDG-50	FBDG-60	FBDG-100	FBDG-120	FBDG-200	FBDG-300
Capacity (kg/bach)	10	50	60	100	120	200	300
Product container Volum (L)	30	150	210	300	420	670	1000
Blower (Kw)	5.5	11.2	15	18.5	18.5	22	30
Heater (Kw)	24	36	36	54	54	96	163
Steam:							
Pressure (Mpa)		0.4-0.6	0.4-0.6	0.4-0.6	0.4-0.6	0.4-0.6	0.4-0.6
Steam Flow (kg/h)		100	120	140	140	180	310
Compression air:							
Pressure (bar)	6	6	6	6	6	6	6
Flow (m ³ /min)	0.6	0.9	0.9	0.9	0.9	1.1	1.1
Weight (kg)	500	1900	2100	2500	2650	2800	3500



FLUID BED SYSTEMS

Local Agent / Representative



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fluidization of the product. Material of window is acrylic sheet

1.3 Product Container

- There should be **01** (one) SS 316 L container to contain the product with SS 304 Trolley.
- There should be nylon made cluster type wheel for easy movement of trolley.
- Product contact surface shall have a surface better than **Ra 0.5**.
- There should be quick dismantling of Dutch sieve & perforated sheet at the product container.
- **Product observation port :**
There must be a window in the chamber for visualizing the fluidization of the product. Material of window is acrylic sheet
- **Sample Collection port:**
There should be an **on line** sample collection port in the chamber to withdrawal of sample during operation without any disturbance to process.

1.4 Air distributor

1.5 Seal

Compliant with FDA Regulation Silicon joint. There should be air seal at bowl mouth. There should be air pressure regulator for sealing of inflatable gasket.

2. INLET AIR HANDLING UNIT

Pre-filter:

- Class: EU3/EU4

Intermediate Filter:

- Class: EU8 or EU9

Option: Dehumidifier with control valve with temperature controller by chilled water

Chilled water temperature: Inlet 5°C, Return 10°C

- **Electric heater:** should be made of S.S. 304
- **Final filter :** HEPA filter with 2 DOP port before and after the filter
 - Class: EU13
 - Efficiency: 99,99%
- **Max drying temperature:** 90°C.

3. EXHAUST AIR FILTER UNIT

- Exhaust air should be passed through **2-stage filtration** EU-8/EU-9 & EU-13 including indication of differential pressure Arrangement to prevent environment pollution.

4. EXHAUST FAN

- Impeller of exhaust fan motor should be made of long lasting materials with statically & dynamic balanced. Exhaust blower should be of centrifugal type with high performance fan.
- Motor Siemens-Germany: 2900 rpm, 415V±10%, 3phase, 50Hz.
- Inverter ABB or Siemens- Germany
- Vibration absorbers should be mounted with the base frame of the fan.
- There is a **silencer** to achieve a noise level not more than 75 dBA.

5 OPERATION, MEASURING & CONTROLLING SYSTEM

The operational requirements for this FBD include the following:

- All the above controlling & measuring parameters should be controlled by PLC **Siemens Germany & HMI 10 inch Siemens Germany or Proface Japan**.

5.1 Alarms

- Error messages on HMI shall be in plain text with fault code.
- A light on the machine shall indicate all alarms.

5.2 Electrical box:

- All electrical equipment located in process areas should be rated to IP55 (dust proof and protected against water jets) unless specified otherwise and terminations within the machine made in sealed junction boxes.
- Electrical equipment located in non-process technical (plant) areas should be rated to IP41 minimum.

6. INLET AND OUTLET DAMPER:

- There should be fast valve both in the Inlet & Outlet damper. They are controlled by automatic **pneumatic control** system

7. DUCT:

- Inlet Duct and out let duct should be made of S.S. 304.

8. CLEANING:

- Automated WIP, at first the equipment will be washed by portable water then final rinse will be done by purified water.
- There should be spray ball nozzle in the spray nozzle port for cleaning the inner side of the machine tower.

9. EXPLOSION RELIEF PORT

- There should be expansion flap incase of excessive pressure 2 bar generation in the chamber.

10. OPTIONAL:

10.1 Loading System

- Port for gravity charging
- Wet granules should be loaded directly or by vacuum transfer to the FBD bowl by gravity feed from Co-Mill of Rapid Mixing Granulator (RMG).

10.2 Unloading System

- Vacuum transfer should transfer dry granules to IBC bin through dry milling cum shifter.

