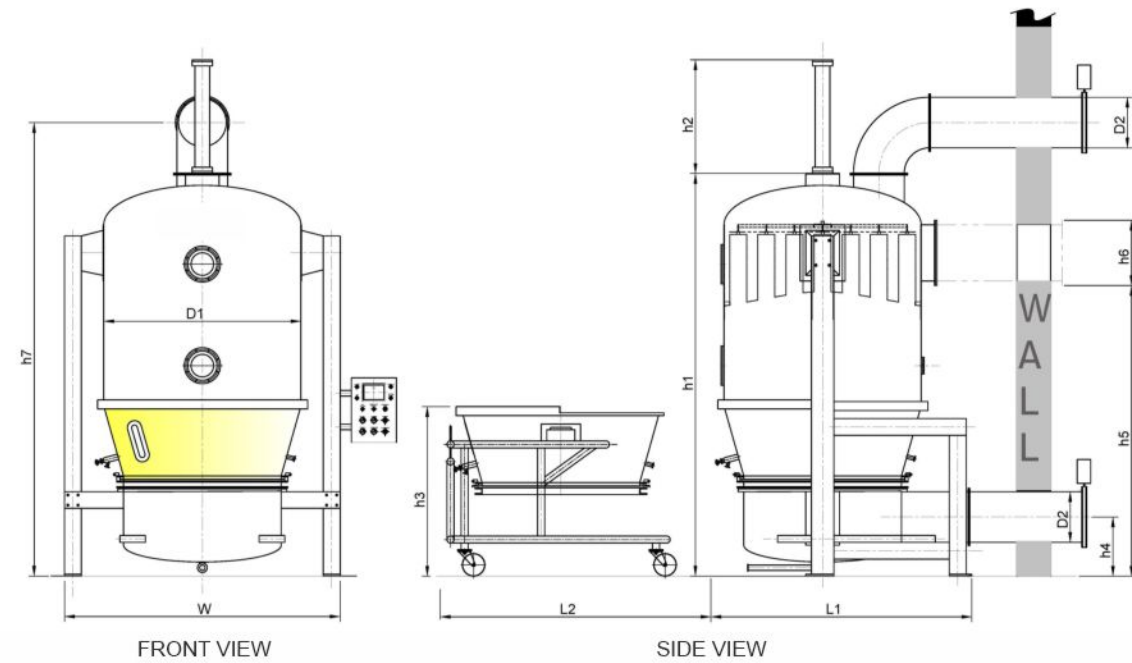


FLUID BED DRYER/PROCESSOR

TECHNICAL DETAILS



MODEL	GM 15	GM 30	GM 60	GM 90	GM 120	GM 150	GM 200	GM 250	GM 300	GM 400	GM 500
Batch Capacity (Kgs.)	15-20	30-40	60-70	90-100	120-140	150-170	200-220	250-275	300-320	400-425	500-525
PC volume (Liters)	40	115	220	295	425	500	570	760	910	1200	1600
Heating load - E (Kw)	12	18	36	36	54	54	60	NA	NA	NA	NA
Heating load - S (Kw)	24000	40000	70000	80000	100000	110000	130000	140000	180000	200000	230000
Steam Consumption (Kg/Cm ²)	45	75	110	130	140	160	220	270	325	460	570
Motor (HP)	3	5	10	10	15	15	20	25	30	40	50
Temp. rise to ambient (°C)	70	70	70	70	70	70	70	70	70	70	70
Air Volume (CMH)	1200	2000	3500	400	5000	5600	6500	7000	8000	10000	11000
Compressed air consumption @ 6bar (CMH)	4	6	6	6	8	8	10	10	10	10	10



*specifications subject to change without notice

Fluid Bed Dryers are manufactured to suit GMP and having modular construction in three major modules like main processing unit, air preparation unit and exhaust blower unit which has to be connected by duct, hence installation flexibility can be obtain as per site condition and requirement.

SUITABILITY

The Fluid Bed Dryer-FBD are suitable to dry powder, granules, crystalline, coarse or similar material in pharmaceuticals, fine chemicals, API, dyestuff, food processing, plastic or polymer granules and allied industries

OPERATION

The wet granules / powder is transposed to a fluidised state by hot air stream that surrounds the material completely and therefore the heat transfer rate achieved is very high and the temperature distribution throughout the product is uniform. Due to this, drying time is considerably reduced & therefore high production rates are achieved in comparison to other dryers. As the product is in the close contact with hot air at low temperature & also for short duration, the physical & chemical properties of the product are generally not affected and therefore the dryer can effectively be used for the heat sensitive products. Due to movement of product during drying, lump formation, case hardening etc., are minimized. The Fluid Bed Dryers are not suitable for drying of liquids or pasty material.

BATCH SIZE

The batch size indicates weight of wet powdery mass to be dried in one lot for example GM 120 indicates 120 kg weight of wet mass.

DRYING TIME

The drying time depends upon various factors like physical properties of the material, initial moisture content, required moisture removal, type of moisture (free moisture or water of crystallization), drying temperature, atmospheric conditions. etc.

FLAMEPROOF CONSTRUCTION

In case product contains solvents or inflammable substance it is necessary to have all electrical components housed in flameproof enclosure, motor should be flameproof, and heating media should be steam or flameproof electrical heaters.



BUILT IN FEATURES

- cGMP having two bar shock resistance construction
- Modular construction to ease of various installation options
- Single piece construction avoiding flange joints in processing main unit
- Wireless shaking system to avoid falling of shredded wire particles above the filter bag and into the product
- Light glass having low wattage LED light in water proof stainless steel housing
- Quick change toggle clamps to ease of removal/changeover of air distribution plate & bottom sieve
- Inflatable sealing gasket made out of food grade silicone gasket for hermetic sealing and to avoid scaring cloth at the bottom of product container
- Explosion vent provided with flap to open if positive pressure develops inside the main chamber and exceeds more than 0.2 bar
- Isolation of main unit with Butterfly valves at inlet and exhaust duct of main unit
- Light glass having low wattage LED light in totally enclosed stainless steel housing pressure of product container, filter bag sealing gaskets
- Emergency shut off switch on operator panel and power panel
- Inlet air temperature excessive high than set temperature system cuts off
- Outlet air temperature high than set temperature system cuts off
- Intrinsically safe earthing device for product container to ensure firm earthing
- Overload relay for over draw current

OPTIONAL (AT EXTRA COST)

- Sampling device to withdraw sample un interrupting process
- HEPA filters at inlet air preparation unit with DOP test window and differential pressure gauge
- Broken bag detector to detect powder flowing into the duct due to broken bag & shutdown system
- Bed temperature sensor: To indicate actual product temperature
- PLC: Mitsubishi make PLC with HMI / MMI
- Flame proof control panel made of CI / cast aluminum housed in stainless steel enclosure
- WIP arrangement with spray ball (utilities by user)
- Police filter at exhaust air (CS / SS enclosure)
- Product charging port: pneumatically operated through control panel
- Product discharging port: pneumatically operated through control panel
- Auto pneumatic racking arrangement in each product container
- VFD: variable frequency drive for blower to control air flow
- De-humidification system to reduce Rh of inlet air for heat sensitive products
- Humidity sensor with transmitter and three way cold water control valve
- Noise relaxation silencer at the exhaust of blower
- Various heating media options like Steam, thermic fluid (oil heating), electric heating, hot water heating, hot air generator, gas fire etc.
- Product contact parts coated with FRP, Teflon lining etc. for highly corrosive products
- Bed temperature sensor to observe / monitor product temperature
- Qualification Documents Can Be Provide as Per End Users Requirement