Closed Granulation Line
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European Technology - Made In China

This granulation line is suitable for small, medium and large batches, no material exposure, high pressure. With explosion-proof device, can be used for organic solvents.

- Advanced technology
- High pressure resistance
- Closed transfer
- Processing control
High Shear Mixer

The high speed Mixer&Granulator is ideal for mixing and granulating wet powder. Machine is applicable widely in pharmaceuticals, chemical industry, etc.

Feed:
Two options: Vacuum loading or gravity loading.

- **Vacuum loading:**
  Including deusting system, vacuum pump, soft connections, pipe, bag filter and valves. Pulse purge automatically. Suitable for horizontal mode.

- **Gravity loading:**
  Powder is charged from up floor or IBC on lifting machine. Suitable for vertical model.

Comply with following regulations:

- FDA standard compliance
- CE compliance
- cGMP compliance
- 21 CFR Part 11 software
Mixing:

- Vessel design: Enlarged diameter, shorten height design, bottom R60mm and longer chopper can ensure material even cutting and get better granulation result.
- Agitator lifting automatically for cleaning and maintenance.
- Main shaft is specially designed, easily to assemble/ disassemble for maintenance/ replacement or horizontal air seal and vertical air seal.
- Torque measurement and running time to determine end point.

Liquid supply system:

- PLC control.
- Peristaltic pump with built-in controller.
- Different size of nozzles suitable for different liquid viscosity.

Spraying angle can be 60° or 45°
Ex MOTOR, Temperature sensor, Flow meter, Valve.
Agitator Lifting:

- Agitator with heavy duty motor and VFD-soft start, soft stop.
- Agitator lifting automatically for cleaning and maintenance.

Online wet mill:

- Built-in at discharge of HMG, speed variable by VFD.
- Integrated control with SMG-H.
- Driving system inside the machine body.

WIP (washing in place):

- Spray nozzles located on the lid and discharge port. Supply and discharge water automatically viz control system.
- 12bar or 16bar pressure resistance solution is available for organic material. Closed transfer to fluid bed dryer granulator and lifting dry mill.
Fluid Bed Dryer Granulator

Overview:
Multifunction: Drying, granulation and pellet coating with incline cutting, (45°) bottom plate.
Granulation of fine powders: tangential spray of top spray.
Coating fine particles and pellets: tangential spray.
Advantage:

- Multifunction: drying, granulation and pellet coating. Tangential spray can save processing time significantly.
- Even air distribution, quick drying and no damage on granule.
- Closed transfer.
- WIP system.
- Closed 12 bar pressure resistance.

Filter housing:

For single chamber: Bag filter, auto dedusting by pulse jet. Interval operation.
For double chamber: Bag filter or SS filter, auto dedusting by pulse jet. Continue operation.

Bottom plate (Incline cutting 45°)

45° incline cutting output spiral air flow and have benefits of:

- Even distribution of air; Quick Drying;
- No material remain after discharging;
- No spray loss.
Spray nozzle: 45° fixing on bottom plate

Retractable spray nozzle
**Tangential Spaying:**

- Spray gun is fixed on the bottom plate in 45°, which ensure the even coating. This solution significantly saves time than traditional processing.
- Near infrared spectrometer can be used for monitoring and determining the humidity, ingredient uniformity and running time. Particle counter can check the particle distribution.
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