

Multifunctional Hot-melt Spray Granulator

Applications:

This machine is a multifunctional solid dispersion one-step granulator. Its hot-melt freezing technique is used to prepare solid dispersion, including taste masking materials, solubility agent, extended/control releasing, targeted releasing, etc. In addition, it has all the basic functions of a traditional spray dryer.

Features:

1. The device has two functions, hot-melt freezing spray granulation and spray drying granulation.
2. The cooling circulation system: the device uses a completely closed cool-air filtration system. Cold media temperature (the minimum reaches -15 °C) and energy consumption is reduced significantly.
3. Nitrogen protection circulation system (optional): for some specific process requirements, the completely closed Nitrogen filtration circulation system can provide oxygen barrier, to improve the stability of the products.
4. Atomizing/heating system: the device uses a segmented heating double screw feeding system to ensure the continuity of the hot-melt spray. Temperature of the atomized gas is controlled via an independent heating source to prevent material condensation/ clog in the spray nozzle.
5. Hot-melt double screw feeding reduces tension time of materials at high temperature. The stability of the materials is improved.
6. Multi-form spray system: according to various process requirements, two types of atomizing devices, "air atomization" or "airless atomization", are available. Material particle size can be controlled strictly in the range from 50µm to 500µm.
7. Spray drying stage: inlet air gains higher evaporating capacity after freezing dehumidification process. The hot air temperature is reduced. Therefore, it is more suitable for the process of heat sensitive materials than any other conventional spray dryers.
8. GMP standard, three-level security authorization, parameters controlled by PLC, auto-save for all data which can be exported by USB devices.



Lab, Pilot and Production Models and Technical Data

Model	MS220	MS1000	MS1500
Production Capability (kg/h)	0.5-2	20-50	50-100
The minimum amount of materials (kg)	0.2	1	1
Air Temperature Control (°C)	-10~150±2	-10~150±2	-10~150±2
Hot-melt Temperature (°C)	Room temp. ~200±2	Room temp. ~200±2	Room temp. ~200±2
Fan Power(KW)	1.5	3.7	10
Electric Heating Power(KW)	3	6	10
Refrigerating Power(KW)	2.2	7.5	15
Dimensions (L × W × H) (mm)	1100×1200×1700	3200×2700×3600	3500×3200×3800