



Glatt Multicell GMC
Semi-continuous operating,
fully automatic plant for
the production of granules



Glatt Innovation

Glatt® The granulation production

36
Deckel
3kg

36

Multicell Fluid Bed Drier

Various wet granule batches are dried simultaneously in the chambers of the Multicell fluid bed drier with a very short drying time. The entire product is pneumatically conveyed from one chamber to the next.

Air Handling

An inlet air handler unit is used for the conditioning of the inlet air. Each drier chamber has individual control for the inlet air temperatures and air volume throughput rates.

The outlet air handler unit consists of an outlet air filter and a fan.



Safety devices

Explosion relief ducts are not required due to the 10 bar impulse pressure tight construction. In case of an explosion the quick acting stop valves are automatically closed by means of a pressure detection device.

WIP Cleaning

The plant can be fully washed in place with installed In-process filters.

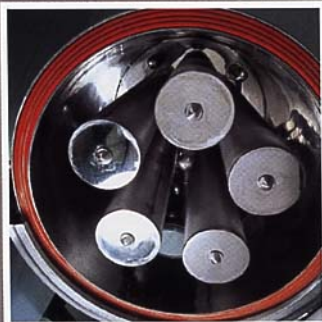
The GLATT-Granule-production-line is a processing plant ideally suited for applications in the pharmaceutical, chemical and food industries. This continuous plant has been designed to conform to GMP pharmaceutical execution and for fully automated computer SCADA controls. The granule production is a partially continuous sequence achieved by means of batch operation coupled to optimal product dependant residue times which provide for a constant product quality attained by short process sequence times.



The totally contained product flow path together with the negative pressure product handling from one module to the next guarantees a contamination free process. The machine offers a multi-functional processing system that is ideally suited for either small scale lab trials or maximal through put production operations. A complex scaling-up process is no longer required! If necessary, each processing module can also be used individually.

Delumping of the Wet Granules

The delumping of the wet granules is achieved by an In-Line vertical feed conical screening machine during the pneumatic transport from the mixer granulator to the fluid bed drier.



Filtration Technology – In-Process

Cylindrical st. steel cartridge filters are used for the particle separation. They are cleaned by means of a blow back system during the drying process.

Product Discharge

The dried granules are pneumatically conveyed from the last chamber into a vacuum separator. Dry-sieving and product-conveying are simultaneously.





Advantages

- Semi-continuous operation mode
- Variable process sub-unit volumes
- Applications for large or small production batch sizes
- No need for process scaling-up!
- Lab. size unit can be used for production with significant reduction of product development times
- Excellent yield i.e. no product retention
- Totally contained process free from cross contamination
- Constant final product consistency and quality
- Improved granule and tablet quality
- Fully automated process sequence control with SCADA system to GAMP standards.
- Lights out- unmanned production and automated WIP cleaning possible
- Separate operation for each individual component possible

Options

- 10 Bar impulse pressure tight construction
- Closed-loop solvent recovery N₂ pressurised systems available
- Automated IBC container blending step after addition of further additives possible
- Manual or automated product sampler can be installed on each process step
- Fully automated final product sampling by means of a multi-bottle carousel
- Stainless steel in-process cartridge filters
- External pulse filter cleaning systems
- WIP system can be equipped with internal flush fitting pneumatically retractable washing nozzles
- WIP conductivity and particle measuring system
- WIP filtration and recirculation system to reduce water consumption
- Automatic granulation end-point shut-down by means of power consumption monitoring
- On-line product moisture monitoring
- Moisture and time dependent controlled process
- Synchronisation between product dosing and granulation
- Fluid bed granulation process
- Fully conditioned process air
- Additional fluid bed modules possible

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