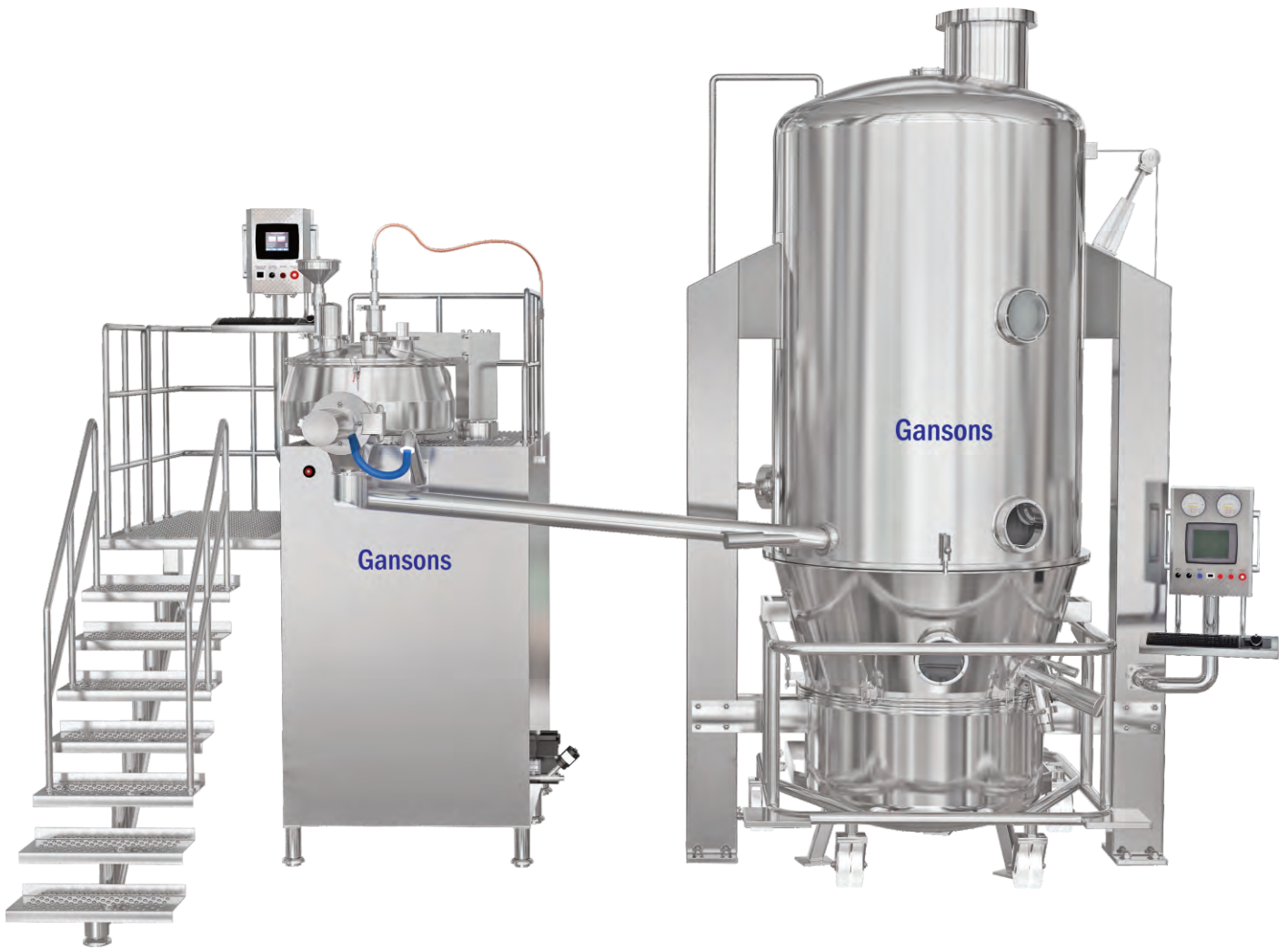


Gansons

Better Solutions Since 1947



Wet Granulation Solutions

Knowledge • Execution • Support



About Gansons

Founded in 1947, we are one of the world's oldest family-owned process equipment manufacturers. Through the course of our history, we have been at the forefront of industrial innovation. Today, over two billion person-hours of experience shape and refine every Gansons machine and service.

Gansons, an ISO 9001:2008 certified company, has multiple facilities across India with headquarters in Thane (near Mumbai). We have manufacturing facilities in Thane, Digha, and two in Nashik with a combined floor space of over 150,000 square feet.

To drive product innovation, we maintain our own Research and Development facility in Thane. This facility is supported by close relationships with leading academic institutions.

We have a global network of agents to support our clients from over 30 countries. Our commitment to excellence is built on our values of Passion, Perseverance and Perfection.

To quote one of our clients, "When you buy Gansons, you buy peace of mind."

Customer Support

At Gansons, we recognize that our clients need to maximize their ROI over the entire lifecycle of ownership. For our clients, machine downtime is not acceptable. To support them, we maintain a dedicated team of 20 service engineers.

Technical Support and Repair

Live and immediate technical support is available using all major communication tools. Local service engineers are available in selected locations.

Standard on-site response time:

- India: 24 hours
- Globally: 72 hours (conditions apply)

Installation and commissioning supervision is done by a single person for a seamless experience.

All our vendors are contractually required to adhere to the same service standards.

Value Added Services

We offer our clients value-added services so that they can run their machines with the highest efficiency over time.

- Operator training programs
- Process optimization and validation
- Annual maintenance contract
- Machine upgrade consultations



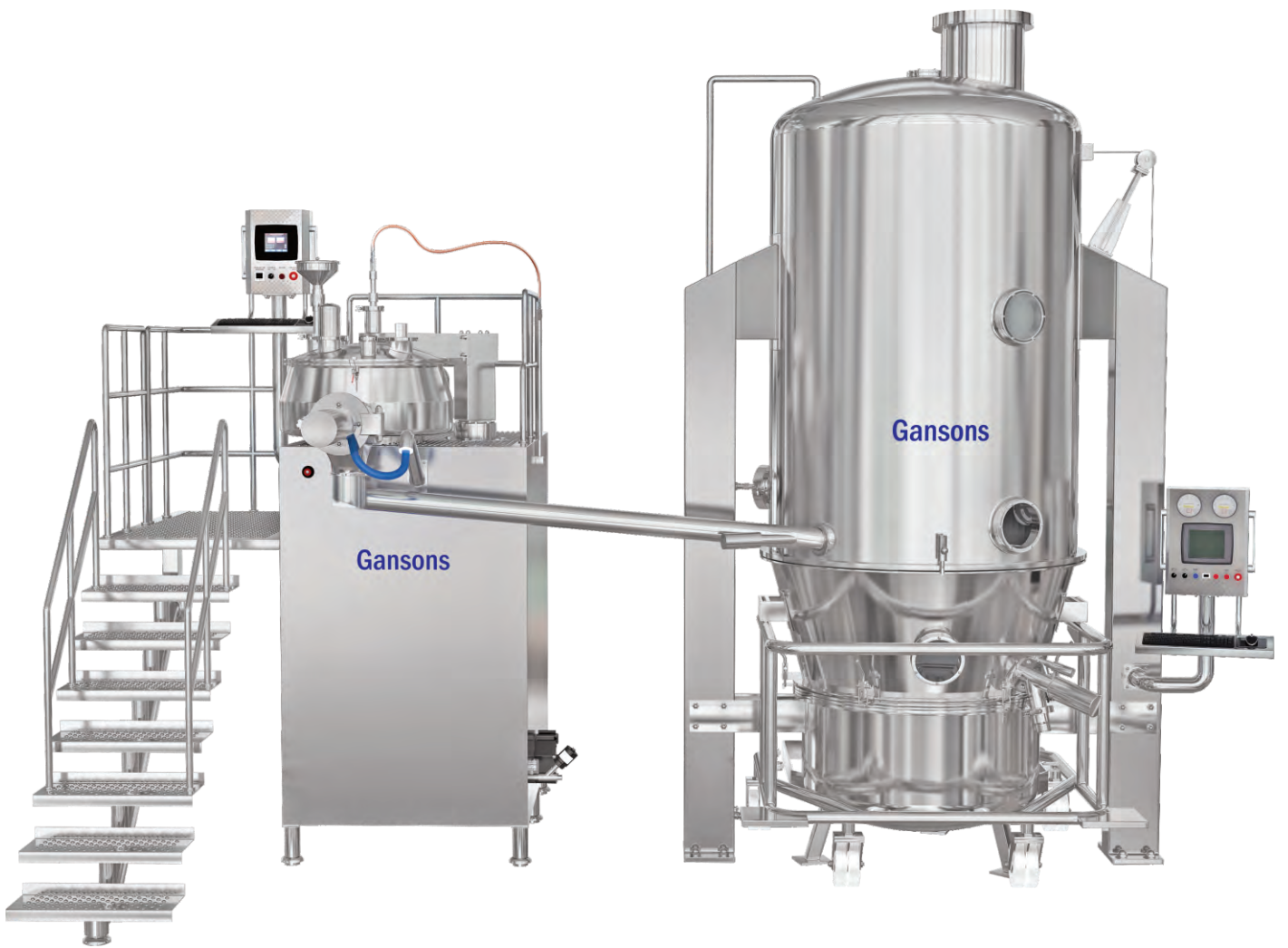
Clients face the challenge of increasing production while managing risk, reducing costs and complying with statutory requirements. However, using a battery of equipment, the traditional wet granulation process is slow, expensive and plagued by variable results and human errors.

We believe integration is better than aggregation—a holistic solution is smarter than using uncoordinated equipment.

Gansons Integrated Granulation Suite is built around best-in-class equipment and further optimized to deliver higher outputs of high quality granules. It is more economical, improves product quality while reducing manpower requirements and equipment management costs. Currently, **Gansons Integrated Granulation Suite** is generating up to 18 metric tons of granules per day for one of our clients.

A 'Force Multiplier' is a tool that amplifies input to significantly increase output.

Gansons Integrated Granulation Suite is a 'Force Multiplier'.



Certifications



Gansons Integrated Granulation Suite

Increased Output
Fewer Resources Required
Fewer Problems

Improved quality	Fewer human errors Scale up from R&D to manufacturing level
Economical	Less variability in process time Better asset utilization Lower infrastructure requirement and energy consumption
Lower manpower required	More automation
Reduced life cycle management cost	Eliminates need for multiple vendor visits—single point accountability Lower risk of downtime
Cleaning convenience	WIP arrangement Fastest changeover
Improved safety	Lower operator exposure Closed transfer lowers contamination risk
User friendly interface	Easy to operate HMI Significant reduction in learning curve

Gansons Integrated Granulation Suite operates in Internationally Regulated Plants



High Shear Mixer Granulator (HSMG)

Proven Performer that Leaves Nothing to Guesswork or Chance

Optimized Bowl Design:

Maximizes Mixing to Ensure Uniform Shear Application

The bowl design promotes vortexing of the material uniformly in and out of the shear zone.

Regardless of bulk densities, optimized material movement ensures uniform 3D shear application, maximum micro and macro-mixing and rapid granule growth. For temperature sensitive products, a jacketed bowl is offered.

End-point Detection:

Accurate Detection Over a Life time

End-point determination based on Amperage, Time, Power and Torque.

Gansons proprietary gear drive used in production of **HSMG** wears less over time and is more efficient than generic gear drives used by other RMG manufacturers. This results in more accurate end-point detection over a longer time period.

Duo Seal System:

Particle Ingress Eliminated

- Developed originally for nano-technology applications
- Prevents cross contamination during product changeovers
- Reduced downtime

Gansons Superior Performance Gear Box:

Energy Efficiency and Cost Savings

- Direct driven system with combined motor and gear box efficiency of more than 90%
- Durable with negligible maintenance costs
- Superior contact efficiency leading to 20% savings in operational costs
- Flame proof variants available
- Readily available and quick replacement possible

Automation and Controls:

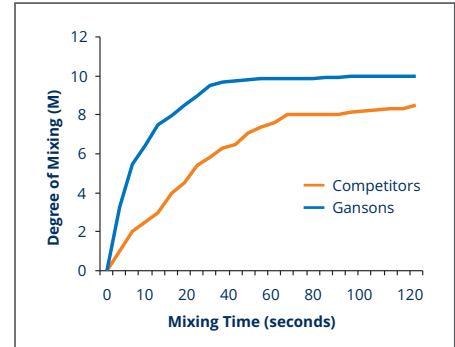
State of the Art

- 12 bar pressure rated design
- IPC/PLC systems with:
 - Recipe management
 - 21CFR11 record keeping
 - Optional SCADA system for integration with other granulation equipment

Impeller:

Designed Specifically for the Pharmaceutical Industry

- Impeller design accelerates premixing through a pronounced vortex movement and powder recirculation.
- Optimized rake angle for ideal shear delivery and swept volume. The impeller's close tolerance design reduces material build-up.



Multifunctional Chopper:

Moving Beyond the Traditional De-Lumping Function

- Aides in binder fluid distribution throughout the dry mix
- Oversized agglomerates are effectively de-lumped/distributed
- Facilitates material movement across shear planes, resulting in enhanced mixing

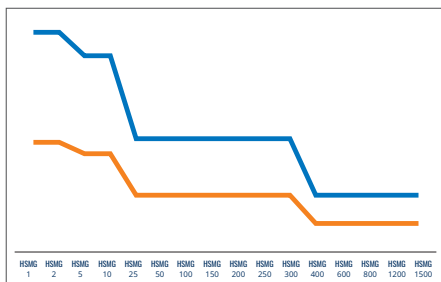
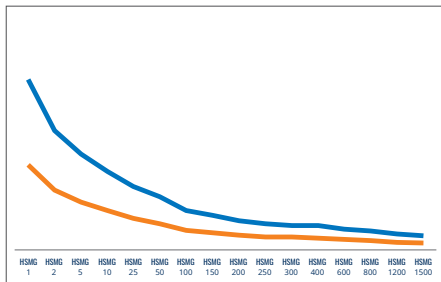
Smaller Footprint:

Greater Layout Flexibility

Gansons HSMG has a relatively smaller footprint that provides spatial layout flexibility in a production suite.

Scalability of HSMG:

Defined and Predictable



These results are based on trials conducted in our laboratory under ambient conditions. Results may vary depending on the process, product and environmental conditions.

Gansons Fluid Bed Dryer (GFBD)

With Patented Cyklon[®] Air Distribution System



Cyklon® Design:

Overlapping Concentric Plates

- Controlled spiral air flow distribution
- No edges and easy dismantling facilitates cleaning

Cyklon® Airflow:

180° Horizontal Air Delivery Swirl Flow

- More control over fluidisation
- Longer particle flow paths—increased drying efficiency
- Inter-particulate abrasion greatly reduced
- No rat-holing in product bed even with less product loading
- Less product loss—reduced amount of powder escapes to the filter bag

Cyklon® Performance:

Simply Superior

- 60% reduction in drying time
- 50% increase in productivity
- 50% savings in utilities

Safety:

12 Bar, Better Earthing

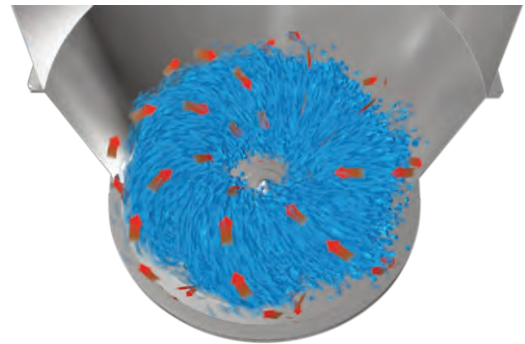
- GFBD is available in both 2 bar and 12 bar construction
- Unique 5-point electrical grounding system to protect against static build up

Flexibility:

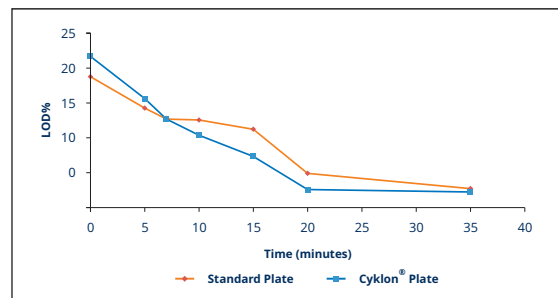
Easy to Operate

- Conidur® screen available for easy discharge

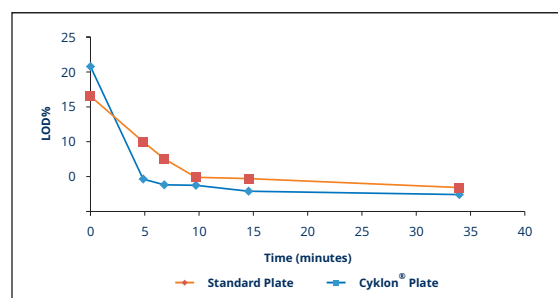
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Gansons Cyklon® Plate vs Standard Plate in Heavy Granulation

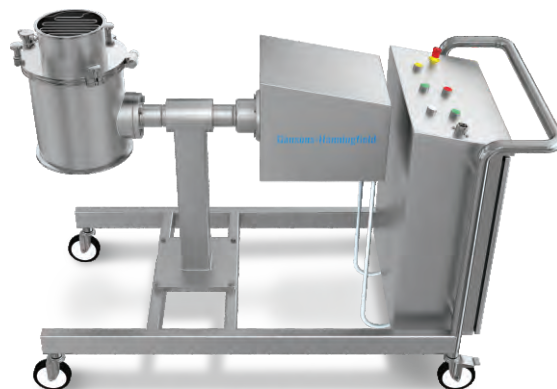


Gansons Cyklon® Plate vs Standard Plate in Normal Granulation



Conical Mills by hanningfield

Controlled Particle Size Distribution



Hanningfield Uni-Mill is a conical mill designed for high-integrity milling processes in the pharmaceutical, food, chemical and related industries. It is suitable for a wide range of applications and offer full process scalability from laboratory to pilot to production scale.

Features and Benefits:

- Higher throughput
- Stand alone and in-line integration design
- Low heat, dust and noise
- High energy efficiency
- Tighter particle size distribution

Customizable (where applicable):

- Autoclavable mill-head
- CIP, WIP & nitrogen purging
- Temperature monitoring
- ATEX compliance
- Pre-breakers

Sifters by hanningfield

High Capacity Screening in Less Time



Hanningfield Kwik-Sift guarantees material integrity through the capture of alien objects. To achieve different grades of separation, various drum mesh sizes are available to meet different application requirements.

Features and Benefits:

- Fast and effective powder screening with 360° discharge
- Single/Dual spoiler arm arrangement
- Suitable for vacuum charging and discharging
- Compact, in-line design

Gansons Diffusion Blenders



Double Cone Blender



V-type Blender



Octagonal Blender



Bin Blender

- Gansons diffusion blenders have precise placement of intensifiers for homogenous mixing
- All blenders include attached railings for enhanced safety
- Various capacities ranging up to 5,000 litres are available

Gansons Vacuum Transfer System



Gansons

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