

# SHAPING THE FUTURE OF PHARMACEUTICAL PRODUCTION WITH CONSIGMA®.



# TAKE YOUR PHARMACEUTICAL MANUFACTURING TO THE NEXT LEVEL.

The pharmaceutical industry faces constant pressure to bring products to market faster, reduce costs, protect the environment and ensure the highest quality.

Traditional batch-based processes, although reliable, often struggle to keep pace with these demands. Batch manufacturing can be slow, inflexible, and resource-intensive.

Continuous manufacturing (CM) is transforming how oral solid dosage (OSD) forms are developed and produced. By enabling a seamless end-to-end process, CM offers greater efficiency, flexibility, and control. This approach not only streamlines production but also supports real-time quality assurance, helping pharmaceutical companies to respond quickly to market needs and regulatory changes.



# PUT YOUR TRUST IN GEA: ADVANCE WITH CONFIDENCE.

Combining a wealth of pharmaceutical expertise with proven technologies from other industries, GEA has been at the forefront of continuous processing for more than two decades.

## Decades of Proven Expertise

- 20+ years of continuous manufacturing experience
- Trusted by leading pharmaceutical companies worldwide
- Numerous successful R&D and commercial installations

## Flexible, Modular Solutions

- Scalable platforms from development to full-scale production
- Upgrade single steps or integrate multiple processes
- Open architecture: compatible with GEA and third-party equipment

## Seamless Collaboration & Support

- Dedicated experts guiding you at every stage
- Fast installation and minimal downtime with “plug and produce”
- Ongoing technical support and training

## Commitment to Quality & Compliance

- Integrated PAT tools for real-time quality control
- Advanced digitalization for data management and traceability
- 21 CFR Part 11 compliance



# ACHIEVE MORE.

Using ConsiGma® accelerates product development, reduces costs, and improves supply chain efficiency.

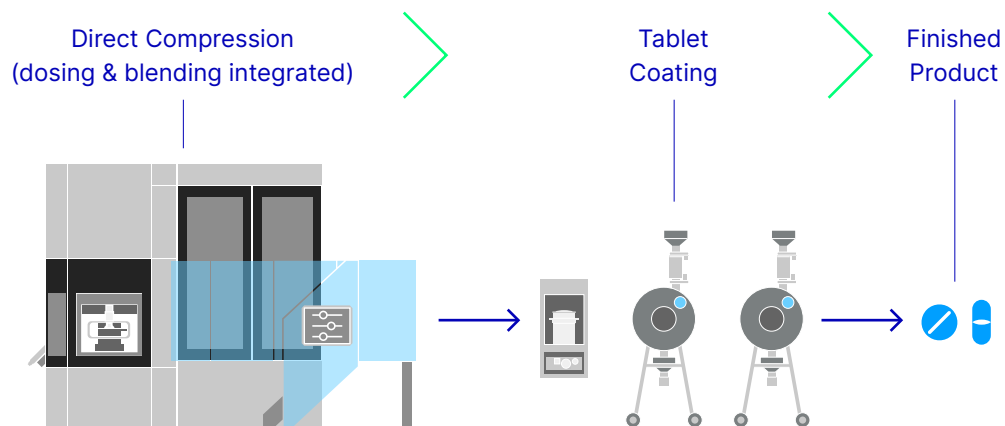
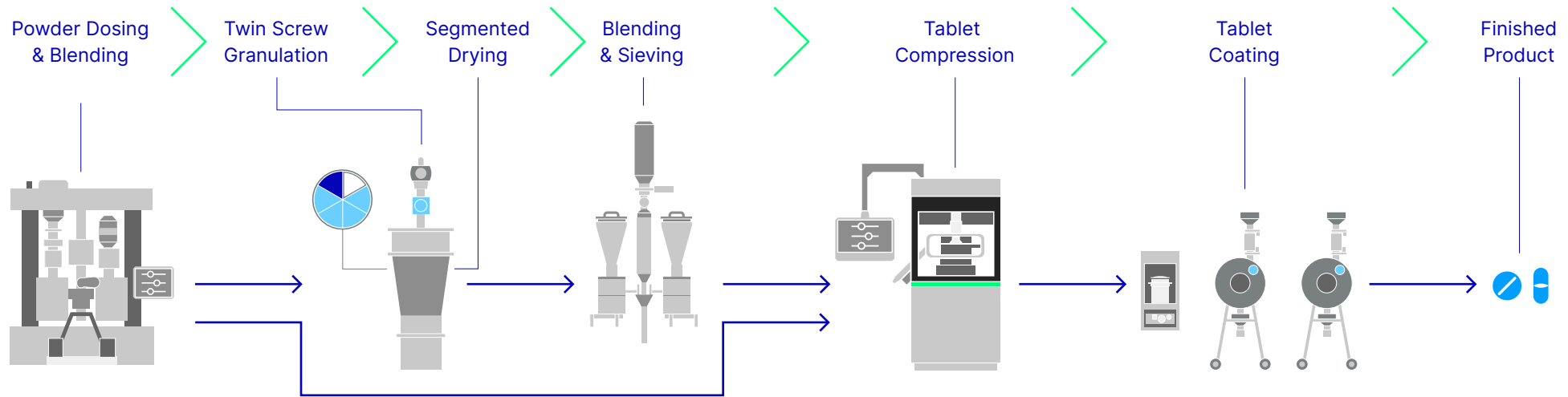
It enables real-time quality control, minimizes waste, and allows for flexible batch sizes — producing exactly what you need, when you need it. Integrated process analytical technology (PAT) tools provide continuous monitoring and control of critical quality attributes, ensuring consistent product quality and supporting regulatory expectations for quality by design (QbD).

Digitalization is at the core of our solutions. GEA's systems offer advanced data management, full traceability, and compliance with 21 CFR Part 11, including audit trails and seamless connectivity with MES and ERP systems. This ensures robust data integrity, easy regulatory submissions, and a future-proof manufacturing environment.

**GEA's CONDUCTOR** is the highly advanced, SCADA-based heart of the control system architecture that brings all the smart and robust ConsiGma® processes and technological solutions together in one easily controlled environment.



# ConsiGma® Continuous Process Lines: from powder to finished product.



## GEA's portfolio covers every step of the OSD process:

- **Powder Dispensing** with highly accurate, gravimetric feeders
- **Dry Blending** for efficient and uniform mixing
- **Granulation & Drying** using advanced high-shear and fluid-bed technologies
- **Tablet Compression** with precise control for consistent quality
- **Tablet Coating** with innovative, high-performance systems

All these steps can be integrated into a single compact line with the added benefits of reduced energy use, less operational complexity and a smaller footprint. Our modular approach means you can select the exact combination of modules or products that best fit your needs and easily expand or adapt your system as your requirements evolve.

For the whole portfolio, we offer a range of cleaning solutions to suit all requirements (from simple cleaning options to systems for high containment applications).

Together with you, we can select the right solution for your application.

# Move beyond batch processing.

Although batch processing remains a valid approach, continuous manufacturing offers significant advantages in terms of efficiency, quality, and flexibility. GEA can help you to evaluate the best solution for your needs — whether that's batch, continuous, or a hybrid combination. Our experts provide comprehensive support from initial consultation and process development to commissioning, training, and ongoing service.

And if you're looking for proven continuous technologies, GEA's technology is trusted by leading pharmaceutical companies worldwide. With numerous installations in R&D and commercial production, our systems have enabled faster approvals, reduced costs, and improved product quality for both innovative and generic manufacturers. Many organizations, both large and small, have developed formulations using our systems in R&D, subsequently transferred them to production, and have now had them approved for sale and use.

## In a nutshell

The pharmaceutical industry has been looking at continuous processing for some time to improve production quality in an efficient and cost-effective way, and to comply with the increasingly stringent manufacturing acceptance criteria put in place by the regulatory authorities. One of our key objectives with ConsiGma® is to tackle the misunderstanding that continuous equals complexity and, at the same time, is prohibitively expensive. This is no longer the case.

As a pioneer in this field, GEA and its partners have been leading the way toward smaller, more flexible continuous processing technologies that have the potential to transform the future of pharmaceutical development and manufacturing ... and deliver customized quantities of drugs to patients in need in a quick and efficient way. ConsiGma® is the next step in that journey.

**Discover how GEA's continuous manufacturing portfolio can optimize your pharmaceutical production.**

Contact us to learn more or to arrange a demonstration at one of our global technology centers.



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