What makes your tablet production efficient?

Efficient tablet production begins long before the decision for a tablet press is made and carries on beyond actual ongoing production. Efficiency is the result of a continuous process and the successful cooperation of experts. We can support you in all aspects of tablet production – from process planning to optimizing the application and usage of your existing equipment, right through to improving overall equipment effectiveness (OEE).

Our specialized field service team and our service technicians can provide worldwide support to assist you in performing your tasks. Furthermore, you can make use of the extensive consulting, training and testing offered at our eight subsidiaries in Asia (Singapore), China (Nanjing), France (Noisy Le Grand), India (Goa), Latin America (Campinas), Mexico (Mexico, DF), Spain (Madrid), and in the USA (Rockaway, NJ).

Please peruse this brochure to find out more about the services we offer. We are looking forward to the challenges we can help you overcome – whenever and wherever you need us.

Fette Compacting Global Customer Support

EFFICIENCY

GUIDE

TECHNOLOGY covers all products in the tableting technology; from tablet presses, to process equipment and tableting tools.

SERVICE includes all services related to machinery and equipment, such as: spare parts supply, installation, system upgrades and technical field service.

COMPETENCE is the generic term for our process-related services. This includes our training programs and compression trials, as well as application and OEE consulting, and engineering.
Plant modernization – performance breakthroughs for existing investments

COMPETENCE

Service contracts – guaranteed high performance for your production processes

SERVICE

Excellence United Service Portal

SERVICE

OEM spare parts – efficiency through optimum equipment

TECHNOLOGY

OEM standard spare packages

TECHNOLOGY

Press Tooling – for increased productivity

TECHNOLOGY

OEM spare parts – efficiency through optimum equipment

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OEM standard spare packages

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Press Tooling – for increased productivity

Fette Compacting eCAT – your individual, electronic parts identification

SERVICE

Fast and direct – the Fette Compacting eSHOP

SERVICE

Reconditioned machines – efficiency from tradition

SERVICE

Service contracts – guaranteed high performance for your production processes

SERVICE

Excellence United Service Portal

SERVICE

Plant modernization – performance breakthroughs for existing investments

COMPETENCE

Plant optimization and application consultation – continuous improvements in efficiency

COMPETENCE

OEE consultation – integrated optimization of your processes

COMPETENCE

Fette Compacting Training – train and qualify operators

COMPETENCE
In addition to OEM parts for tablet presses, we also offer OEM spare parts for:
+ Fette Compacting Gratex
+ Fette Compacting Checkmaster
+ Fette Compacting Weightmaster
+ Fette Compacting WiP Center
+ Vertical deduster
+ PKB (pressing chamber coating equipment)
+ Isolator
+ Metal detectors
+ In-process control units

OEM spare parts
As a technological leader, Fette Compacting relies firmly on a strategy of supplying users with OEM (Original Equipment Manufacturer) spare parts.

Parts from the original manufacturer are used exclusively, both for the company’s own tablet presses and components as well as for process equipment from other manufacturers.

Spare parts are supplied through the company’s worldwide logistics network. Its headquarters are in Schwarzenbek, close to Hamburg, and it includes the eight subsidiary companies in Asia, China, France, India, Latin America, Mexico, Spain and the USA.

BENEFITS
+ Design and production “on demand” in accordance with original production data and one-off fabrications
+ Access to design and technical improvements, as well as to comprehensive documentation
+ On-site installation by Fette Compacting service technicians (if desired)
+ Optional: Individual service contracts, with retention and extension of guarantee periods

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OEM standard spare parts packages

Machine availability is an important criterion for efficient production. Fette Compacting performs ongoing risk analyses for all important assemblies. This has resulted in three different standard spare parts packages. In the future these will be offered for the 3090i, 3200i, 2090i, 2200i, 1200i, FE35, FE55 and FE75 machines.

The minimization of down-time, and therefore of the associated stoppage costs, can be reduced to a certain extent by keeping the OEM standard spare parts packages in stock. Fette Compacting will assemble the right OEM spare parts package for your machine.

**BASIC**
The basic package contains components that are subject to wear. These components are most likely to contribute to machine stoppage.

**COMFORT**
Fette Compacting recommends that the comfort package be kept in stock. In addition to the basic package, it contains components that are subject to less wear, but that can fail on occasion. With the comfort package, you have a large number of parts on site that may be needed during servicing by a Fette Compacting.

**PREMIUM**
This package contains, in addition to the comfort package, components which are unlikely to fail, and that would rarely lead to production stoppage. This package is the optimum choice if your production facility must meet particularly strict requirements, and if machine stoppage will result in high costs.

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Compression Tooling
Fette Compacting is the only manufacturer of tablet presses with its own punch development and manufacturing facility. The range of products includes punches made to either TSM or EU international standards, tools for unique applications (such as dishwasher tabs), or specialized tools that allow for the compression of even the most difficult product formulations in the pharmaceutical or other industries.

Quality takes top priority in punch manufacturing. The great majority of what Fette Compacting makes has tighter tolerances than are specified by the TSM or EU standards.

**Benefits**
- Tools and machine parts last longer
- Lower maintenance effort and reduced downtime
- Optimized lubrication and reduced spare parts costs
- Unique punch hob ensures identical punches for repeat orders

**FS12 punch – 40% increased yield**
- Application-oriented head shape
- Long compression dwell time
- Punch head diameter 19 mm
- Shaft diameter 12 mm

**FS19 punch – dwell time redefined**
- 33% longer compression dwell time
- Increased output by faster rotation speed
- Higher compression forces
- Smooth machine running
- Shaft diameter 19 mm

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**FEATURES**

+ No more individual dies
+ No more die lock screws or threaded holes
+ Fewer seams
+ More stations in each pitch circle
+ Special, high-alloy steel
+ Punches arranged tangentially or at a 30° angle

**BENEFITS**

+ Significantly shortened fitting times
+ Greatly improved cleaning
+ Sharply reduced product loss
+ Calculable increase in yield
+ Notably extended service life
+ Existing punches can be utilized

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**Innovative technology:**
Segments make room for more punch stations

+ The function and dimension of the turret remains unchanged
+ Rotor turns at the same speed as before
+ Holes are made directly in the segment
+ The size of the pitch circle determines the number of segments needed 3, 5, or 7.
  102i, 1200i, 2200, 2090i, FE35, FE55: 3 Segments
  3200, 3090i, FE75: 5 Segments
+ Filling behavior identical to that of dies

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**Conventional turret:**
Die table with individual dies and bolts

+ Walls for holding the dies are not required
+ No separate dies
+ No die lock screws or holes
Fette Compacting eCAT – your individual, electronic parts identification

The Fette Compacting eCAT helps you at every stage of the procurement process. At any time of day, users can open a secure web portal with their customer-specific login data, and directly access the electronic catalog and the parts list for exactly their machine.

The catalog has been constructed as a self-explanatory system, and has a logical structure supported by drawings. The fast, unambiguous identification of parts means that incorrect ordering is avoided, and greatly simplifies the procurement process.

**BENEFITS**

+ Easy, fast navigation through a display that is oriented around assemblies and supported by drawings
+ Precise identification of parts and secure ordering through an accurate display of the customer-specific machine parts list, including item numbers
+ Regular updating of the machine data in the context of the maintenance service
+ German or English language can be selected

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Fast and direct – the Fette Compacting eSHOP

In the Fette Compacting eSHOP you can access a wide range of spare and consumable parts through a secure web portal, opened by your customer-specific log-in data, where you can conveniently place your orders at any time of day or night. You can easily and reliably identify the correct spare parts on the basis of your machine type or of its number, and can manage the procurement process without difficulty.

**BENEFITS**

+ Fast, easy identification of the spare parts you need
+ Immediate checking of correctness (through illustrations and item numbers)
+ Order history
+ Pricing and parts availability in real time
+ Free-Home Delivery
+ Information about events and specials

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Plant modernization – performance breakthroughs for existing investments

Tablet presses from Fette Compacting are capital investments in the best sense. The quality of their engineering and their long service life means that they guarantee high-performance far beyond the usual warranty and depreciation cycles in this industry. The plant modernization proposal helps to bring existing tablet presses up to the latest standards and to get the most out of your investments.

Segment technology
+ Significantly shortened fitting times
+ Increased process reliability
+ Greatly improved cleaning
+ Calculable increase in yield
+ Sharply reduced product loss
+ Notably extended service life

Pmax turret
+ Production parameters and properties remain unchanged
+ Less wear
+ Reduced costs
+ Genuine alternative to multi-tip tools
+ 100 % quality assurance

Windows embedded operating system
+ Increased process reliability
+ Leaner operating procedures
+ Simplified handling
+ Increased flexibility

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+ Increased flexibility
**Dust-Tight Tablet Discharge**
- Improved operator protection
- Increased process reliability
- Reduced changeover times

**Stainless steel Fill-O-Matic**
- No additional setup costs at the existing machines
- Minimized product losses
- Weight reduction in PET
- Increased flexibility

**Torque drive**
- Gear is no longer necessary
- No consumable parts and tolerances
- Low maintenance expense
- Reduced heat dissipation up to 50%
- Particularly suitable for the drive of tablet presses

**Air rejection**
- Reduced downtimes
- No costs for consumable parts
- Analysis possible
- Increased process reliability

Contact: tablet@fette-compacting.com
Reconditioned machines – efficiency from tradition

Previously owned Fette Compacting tablet presses can represent a good decision for special kinds of applications or as an economical alternative. Former generation machines that have been accepted as part of a trade-in towards a new machine, for example, are given a general overhaul by specially trained engineers. They are fitted with modern technology and put up for sale. These machines are overhauled according to the specific needs of the customer. The package can be complemented by used process equipment and by comprehensive supplies of new spare parts from Fette Compacting.
Service contracts – guaranteed high performance for your production processes

The highest possible machine availability is an important precondition for efficient production. With individual service contracts tailored to meet your needs, we can offer you comprehensive, continuous support and fast on-site assistance. We offer three service packages based on your individualized preference:

<table>
<thead>
<tr>
<th>BASIC</th>
<th>COMFORT</th>
<th>PREMIUM</th>
</tr>
</thead>
<tbody>
<tr>
<td>The basic module offers competent support</td>
<td>In addition to the service provided by the basic module, the comfort module includes help with machine inspections, Fette Compacting’s experienced technicians get involved here in the customer’s individual requirements.</td>
<td></td>
</tr>
<tr>
<td>for calibrating your Fette Compacting tablet presses. Problems can quickly be identified and solved through a dialog between the machine operator and the service technician.</td>
<td>+ Calibration + Inspection</td>
<td>+ Calibration + Inspection + Maintenance + Spare part packages</td>
</tr>
</tbody>
</table>

**PLUS+** As a supplement to the three service packages, Fette Compacting also offers a 24-hour help desk service, so that customers can get assistance even during multi-shift production, wherever they are in the world. The machine experts can be reached through the hotline 24 hours a day – 365 days a year.

This **PLUS+** service can be combined with any of the other service packages:

- Basic+ = Basic incl. 24 h helpdesk
- Comfort+ = Comfort incl. 24 h helpdesk
- Premium+ = Premium incl. 24 h helpdesk

Technical field service – unique specialists for a unique, worldwide service

The quality of our range of services stands and falls by its personnel. Fette Compacting supports you, wherever you are in the world, with a team of experts who have been specially trained to deal with all aspects of tableting. The staff in Technical Field Service at Fette Compacting have a unique double qualification. In addition to completing training in a field such as industrial mechanis, they have also trained as electrical or mechatronic engineers while completing Fette Compacting’s obligatory training. This ensures that every employee who comes to you from Fette Compacting thoroughly understands all the mechanical, electronic and electrical components of both the tablet press and the associated peripheral devices.

At present, about 80 of Fette Compacting’s employees meet these strict conditions. They work closely with the specialists at our 40 representatives around the world, who have also successfully completed a comprehensive qualification program.

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A tablet press from Fette Compacting leaves the factory in an optimized condition. We have examined and recorded this through a wide range of tests carried out together with your application experts. Ultimately, however, it is the performance in practice that matters. Here, a number of other factors such as fast product changeover and the continued development of operational procedures play an important role. Experienced process engineers from our application consultancy department work with our field service staff to help you whenever a fast reaction is needed – perhaps for a product changeover at short notice, a peak in loading, or some other acute problem.

Our consultancy provides you the best performance of your product on your machines. We focus us on following topics:

**Increasing machine availability**
- Reducing cleaning times
- Reduce set-up times
- Reduce of the unplanned outages:
  - Optimal maintenance management
  - Optimal tool management

**Increase in output**
- Increase the number of tablets/hour through optimization of the machine adjustment to the product
- Identification and elimination of the causes of product loss

**Increase quality**
- Identification and elimination of the causes of:
  - Weight/hardness variation
  - Capping, bonding, breakage, contamination

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**The Fette Compacting Technical Center – your specialized, external, tableting laboratory**

The Fette Compacting Technical Center is our service facility for all aspects of tableting. The Technical Center can be used as a specialized, external laboratory for fundamental experimentation, compression trials and for the production of samples. In addition, the Technical Center is available to you as a space for presentations with the latest presses and consultation meetings. Highly-qualified employees are dedicated to working with you and supporting you in all your tableting questions.

- Fundamental experimentation and compression trials
- Machine acceptance testing
- Technical discussions
- Presentations

**Special facilities:**
- Two special rooms for Wash-in-Place presentations with:
  - Deionized water provision equipment
  - Dust filtration
  - Isolator for containment simulation
  - Air-conditioned pressing rooms with handling systems for, e.g., drum and big-bag feeding

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OEE consultation – integrated optimization of your processes

The concept of Overall Equipment Effectiveness (OEE) is a metric devised by the Japan Institute of Plant Maintenance. It has become established in the industry as a measurement of the value of plant and equipment assets. OEE value is derived from three factors:

- System availability
- Machine performance
- Product and process quality

In a simplified formula, these factors are multiplied together, each factor representing the actual situation in relation to the target:

\[
\text{OEE} = \frac{\text{actual availability}}{\text{planned availability}} \times \frac{\text{actual capacity}}{\text{planned capacity}} \times \frac{\text{actual quality}}{\text{planned quality}}
\]

The range of values and the overall indicator lie between 0 and 100%. This means that overall equipment effectiveness may be low despite relatively satisfactory or even very good individual values. This is where OEE analysis comes into play. This snapshot of processes and evaluation of results reveal potential efficiency gains and specific starting points for optimization efforts.

An important fact about this method is that the performance of individual employees cannot be measured with the data collected. The data is used exclusively to measure equipment and product losses, thereby providing a clear picture of the machine value. The benefit of OEE analysis is to provide production managers a valid, understandable basis for identifying optimization potential and to allow them to make informed capital expenditure decisions.

### Example of OEE calculation

- **Availability**
  - Production time (365 Days = 8760 h)
  - Cleaning time
  - Changeover time
  - Downtime
  - Maintenance and inspection

- **Performance**
  - Output (8760 h × Performa)
  - Effected by:
    - Production speed
    - Product transfer
    - Format change
    - Handling

- **Yield**
  - Product quality
  - Loss of material/features:
    - Weight
    - Hardness
    - Thickness
    - Wear
    - Visual appearance

\[
= \frac{52\%}{58\%} \times \frac{95\%}{52\%} = 29\%
\]

### Benefits of OEE Analysis

- Unbiased measurement and evaluation of overall equipment effectiveness
- Shorter downtimes and changeover times
- Identification of bottlenecks
- Greater machine availability
- Better capacity utilization
- Higher product quality
- Improved efficiency in the production process

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Fette Compacting tablet presses guarantee maximum production performance. However, a machine is only as good as the person running it. With our full-time trainers, the Competence Center Headquarters in Schwarzenbek provides comprehensive educational and training opportunities identical to those provided to our employees.

In addition, we offer comparable training opportunities at our global Competence Centers (USA, Brazil, China, India, Germany). Fette can also provide our comprehensive training at your site if you prefer.

**Training options**

Our modular training concept ensures that all training units are matched accurately to the trainees’ level of qualification and exactly to the needs of your own production environment.

+ Tableting principles
+ Production
+ Application technology
+ Maintenance mechanics
+ Maintenance electronics
+ Turret exchange
+ Multiple layers
+ In-process monitoring through tablet testers
+ Tooling
+ Calibration
+ Galenics
+ WiP
+ Extension courses and customer-specific training

**Target groups**

+ Management staff, R & D, machine operators, maintenance staff, qualification staff, consultants for technology and processes.

**Number of participants**

+ The number of participants in each case is limited to five, so that optimum knowledge transfer, supervision and working at the presses can be ensured.

**Certificates**

+ Participation certificates are issued for all our training courses. The personnel qualification required by the FDA in accordance with 21CFR Part 11 §211.25 is earned through all our training courses.

**Contact:**

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Excellence United Service Portal

How can we help you?

Typical responses from pharmaceutical companies:
+ Reduce wait time for desired service.
+ Limitations due to conventional modem connections:
  - Help with software problems, no support available for mechanical or process-related problems
  - Communication often delayed until technician connects
  - Cumbersome communication methods for service questions

Our solution:
The Excellence United Service Portal

Content and Functions* in Customer Cockpit

Remote diagnostics/service
+ During workdays (8:00 AM – 5:00 PM CET)
+ Guaranteed response time depending on option 1 or 3 hours
+ Contact Excellence United Experts with just a click
+ Faster access to customer and customer system via remote connection
+ Expansion of expert group with colleagues from Excellence United
+ Communication via video transmission
+ Loading of stand images and marking labeling of areas

Maintenance management by Excellent United Partner
+ Faster overview of current maintenance status
+ Automatic prioritization of maintenance list
+ Documentation of all maintenance results
+ Time-based or status-based maintenance planning
+ Excellence United actively informs customer of scheduled manufacturer maintenance
+ Automated distribution of new instructions

Spare parts and machine documentation
+ Online updating of spare parts and machine documentation, every time documentation is opened, system checks server for updated version

Network architecture

- Logbook
- Service Request
- Maintenance Manager
- Customer Cockpit*
- Conference Center
- Solution
  - Chat/videoconference within 3 hours*
- Spare Part Request
- Documentation

*optional
**optional within max. 1 hour
Request spare parts quote
+ Spare parts identified directly on system’s operator terminal

Logbook function
+ All access and intervention logged by Service Portal

Ramp-up phase support
+ The experts at Excellence United coach the customer online regarding questions during the ramp-up phase for product changes

System status check and customer notification
+ Visualization of system effectiveness through app
+ Convenient and location-based view of all important data regarding effectiveness (OEE)

Conference Center
+ Real time communication
+ Multiple attendees possible
+ Webcam
+ Chat room
+ White board
+ the Service Portal is certified by TÜV as safe. It communicates only via SSL-highly encrypted connection.

* Functions available depending on Service Level Agreement

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