How quickly can you change...

... when you have to convert your tablet manufacturing to a different product in the shortest possible time?

Flexibility and ready availability are critical factors for successful and efficient pharmaceutical production. The FE35 is ideally matched to these demands. It offers you the shortest product changeover times of its class, higher productivity, and uniquely easy operation thanks to the Fette Compacting TRI.EASY design.

Discover the next generation of tableting technology.

TECHNOLOGY stands for everything we offer in production technology – from tablet presses and capsule filling machines through Process Equipment to tableting tools and format parts.

SERVICE covers all the services related to machines, Process Equipment and installations such as spare parts supply, plant modernization and technical field service department.

COMPETENCE is the overarching idea behind all our process-related services. This includes training, product trials, application and Performance Consulting as well as engineering.
Fette Compacting
FE35 – for the fastest product changeover

Flexibility and high equipment availability are becoming crucial factors for successful, efficient pharmaceutical production. The FE35 combines all the advantages of the FE Series of models from Fette Compacting with the shortest product changeover times of its class. Users benefit from maximum equipment availability and from maximum investment security:

+ Innovative filling system for easy reliable feeding, even of demanding product blends
+ Innovative turret design for maximum yields, minimum product loss and easy changeover
+ Flexible compression stations for fast format and product changeover
+ Internal tablet discharge for guaranteed uninterrupted production
+ Flexible vacuum cleaning system for short cleaning cycles
+ Plug-and-play connection for Process Equipment
+ Only 10 components have to be dismantled to replace the turret – and no tools are needed
FE35 – Innovations for your productivity

Innovative compression stations
+ Smooth-running compression rollers for ultra-simple handling
+ Compression rollers can be moved quickly to a parking position for easy turret exchange
+ Extremely easy load cell exchange during product changeovers

Machine design
+ Housing of FDA-certified, high-performance plastic
+ Geometrically optimized surfaces for the easiest possible handling and fast cleaning
+ All product contact parts are made of stainless steel or FDA/GMP certified materials
+ 360 degree accessibility
+ Window flaps can be opened without disconnecting Process Equipment

Innovative turrets
+ Faster, easier turret changeover including cams and punches
+ Segments permit rapid refitting
+ Coded tablet scraper
+ Coded filling cam detection
+ One central, multi-function connector for oil, air and electricity

Modern Torque-drive
+ Powerful, modern, direct torque drive
+ Zero-maintenance and energy-efficient
+ Electrical cabinet can be integrated or separated for maximum flexibility
+ Power and control sections are separated
+ Electrical cabinet with innovative cooling design
+ All Process Equipment and machine connections on a single panel

Unique tablet discharge
+ Easy handling
+ Fast, reliable tablet sorting
+ Minimum space requirement thanks to tablet discharge through the column
+ 360 degree accessibility
+ Compact unit without cables or hoses
+ Dust-proof design
+ Since all product contact parts are made of stainless steel, cleaning is fast and efficient

+ Dust-proof and hermetically-sealed electrical cabinet – therefore no contact with ambient air
The Fette Compacting TRI.EASY design permits uniquely easy and reliable operation. The idea behind it: efficiency is only possible when the technology is equally easy in the three dimensions of operating, refitting and servicing.

The TRI.EASY design is oriented precisely around the needs of the user, offering comprehensive help to make every task more straightforward. A short learning curve and significantly more secure handling on the part of the operating personnel, ensure maximum product quality even with the most demanding tasks.

**Features**
+ Plug-and-Play design
+ Dismantling and assembly without tools
+ Machine controller detects the turret configuration

**Benefits**
+ Very easy handling since adjustments are no longer necessary
+ Fast, easy exchange and cleaning
+ Parameters are configured automatically

TRI.EASY Design –
Ease of operation as the key to efficiency
Maintenance-friendly
+ Identical compression rollers for all stations
+ Load cells can be changed without removing the gear box
+ High-resolution load cell can be easily installed for special applications
+ Only 10 components have to be dismantled to replace the turret

Product flow
+ Modern filling devices for maximum productivity
+ Easy to clean thanks to minimal number of components
+ No tools required for assembly or dismantling
+ Optional use of three-chambered Fill-O-Matic
+ Height adjustment via a central slide ensuring absolute repeatability
+ Height-adjustable in steps of 30 μm

Features
+ Next generation air sorting out system with air curtains

Benefits
+ Precise sorting out of bad tablets

FEATURES
+ 360 degree accessibility
+ Extremely easy adjustment of the FOM table in 30 μm steps
+ Smooth-running compression rollers, also ideal for low compression forces
+ Maximum accessibility through innovative housing design
+ Shrouding parts are no longer necessary
+ 250 mm diameter pressure rollers for maximum compression dwell time
+ Control components are separate from power components
+ Fewer plug-in connections mean easier assembly
+ Dust-proof and hermetically sealed electrical cabinet
+ Turret with coding, controller detects the configuration
Fette Compacting HMI – Easy and safe operation guaranteed
The totally redeveloped HMI (Human Machine Interface) of the FE Series lets you keep an eye on all the parameters of the tablet press. The easy, intuitive operation guarantees you maximum efficiency and reliability.

+ 19" touchscreen for the best possible overview
+ Easy operation through full keyboard
+ Dust-protected USB connection
+ No mechanical disc drives
+ Win10® embedded operating system
+ Visual operating software from Fette Compacting
+ SQL Server database
+ Fast access to the most important functions through 12 pictogram buttons
+ All surfaces can be cleaned easily
+ No ventilation slots or openings
+ Ergonomic operator height

<table>
<thead>
<tr>
<th>FEATURES</th>
<th>BENEFITS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Clear process graphics showing all necessary parameters</td>
<td>Easy, intuitive operation through self-explanatory pictograms</td>
</tr>
<tr>
<td>Backwards compatible hot-keys for machine operation</td>
<td>Direct access to Fette Compacting presses</td>
</tr>
<tr>
<td>Individually configurable parameter lists</td>
<td>Fast, easy machine operation</td>
</tr>
<tr>
<td>12 fast-access pictogram buttons</td>
<td>Direct access to the main functions</td>
</tr>
<tr>
<td>Terminal made of FDA-certified high-performance polymer</td>
<td>Smooth, easily cleaned surfaces</td>
</tr>
<tr>
<td>HMI and software identical for the entire FE Series</td>
<td>Intuitive operation of the FE Series for the user</td>
</tr>
</tbody>
</table>
Dimensions

- Terminal Machine
- Good tablets
- Bad tablets
- Cable L = 4 m
- Mains
- Samples
- Pressure air
- 6 bar
- Deduster
- ~500 m³/h
- Air inlet
- Feeding hopper D176

- Foundation loading
- 4 × 8 kN
- 4 × 10 mm²

Pressure air min 6 bar for Turret clamping system + Dosing head + Option: air reject system
Main
400 / 440 / 480 V – 50–60 Hz
Connection
4 × 10 mm²
## Technical Data

<table>
<thead>
<tr>
<th>Segments (S)</th>
<th>S</th>
<th>S</th>
<th>S</th>
<th>S</th>
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</thead>
<tbody>
<tr>
<td>Number of punch stations</td>
<td>51</td>
<td>33</td>
<td>27</td>
<td>24</td>
</tr>
<tr>
<td>Punch type</td>
<td>FS12®</td>
<td>FS19®/EU19 FS®/EU19 TSM1®</td>
<td>EU1®</td>
<td>EU1®/441</td>
</tr>
<tr>
<td>Tablet output units/h</td>
<td>min.</td>
<td>45,900</td>
<td>29,700</td>
<td>24,300</td>
</tr>
<tr>
<td></td>
<td>max.</td>
<td>367,200</td>
<td>237,600</td>
<td>145,800</td>
</tr>
<tr>
<td>Max. compression force 1*</td>
<td>kN</td>
<td>33</td>
<td>80</td>
<td>80</td>
</tr>
<tr>
<td>Max. compression force 2*</td>
<td>kN</td>
<td>33</td>
<td>80</td>
<td>80</td>
</tr>
<tr>
<td>Max. tablet diameter</td>
<td>mm</td>
<td>11</td>
<td>18</td>
<td>25</td>
</tr>
<tr>
<td>Max. filling depth**</td>
<td>mm</td>
<td>20</td>
<td>20</td>
<td>20</td>
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<tr>
<td>Pitch circle diameter</td>
<td>mm</td>
<td>325</td>
<td>325</td>
<td>325</td>
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<tr>
<td>Turret rotation speed min.</td>
<td>min⁻¹</td>
<td>15</td>
<td>15</td>
<td>15</td>
</tr>
<tr>
<td></td>
<td>max.</td>
<td>120</td>
<td>120</td>
<td>90</td>
</tr>
<tr>
<td>Segment height</td>
<td>mm</td>
<td>25</td>
<td>25</td>
<td>25</td>
</tr>
<tr>
<td>Punch shaft diameter</td>
<td>mm</td>
<td>12</td>
<td>19</td>
<td>25.35</td>
</tr>
<tr>
<td>Punch length Upper/lower punch</td>
<td>mm</td>
<td>133.6</td>
<td>133.6 (133.35)</td>
<td>133.6 (133.35)</td>
</tr>
<tr>
<td>Upper punch insertion depth</td>
<td>mm</td>
<td>1–4</td>
<td>1–4</td>
<td>1–4</td>
</tr>
<tr>
<td>Dimensions</td>
<td>mm</td>
<td>1,026 x 1,042 x 2,043 without integrated switch cabinet</td>
<td>1,336 x 1,042 x 2,043 with integrated switch cabinet</td>
<td></td>
</tr>
<tr>
<td>Weight</td>
<td>Tablet press 2,800–3,000 kg, operating terminal 100 kg, switch cabinet 350 kg</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Electrical supply parameters</td>
<td>Operating voltage 400–480 V, 50/60 Hz, power consumption 14 kW</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Theoretical values or technical limits: These can vary in practice, according to product and application.

Tablet thickness is a size dependent on product and can strongly vary.

* limited by punch properties

** special filling depth available on request
24/7 access to machine data and documentation

SmartInterface by Fette Compacting

Machine monitoring in real time
The SmartInterface by Fette Compacting is a server-based application enabling the monitoring of tablet press production processes via mobile devices (laptop, smartphone etc.). The user can obtain an overview of the current production and machine status at any time and independent of location, and download data and protocols, for example. This helps everyone involved in production to maintain full control of the manufacturing process, enabling them to react immediately and deploy personnel more efficiently. This, in turn, permits analysis of inefficiencies and the possibility to take the appropriate measures. Operators can react faster to deviations as they are informed of the current status at all times. The application is available on all standard web browsers via the company’s intranet. Accordingly, only the user’s own IT security guidelines apply.
KPI dashboard
The KPI dashboard provides a simple overview of the current production and machine status.

Monitoring all process data
The monitoring functions can be used to record and export all process values and utilize them for analyses.

Process graphic
The process graphic offers in-house monitoring of production parameters in real time.

Key benefits
+ Retrieve data at any time and from anywhere, even in editable formats such as Excel, without blocking the machine or impacting production
+ Easier machine handling
+ Process acceleration
+ Data update <1s (dependent on the customer network and capacity utilization)
+ Lower risk of contamination of the production area and machine by manual data exchanges on site, e.g. using a USB stick
+ Less ways to the machine and personal protective equipment required
+ Access subject to the customer’s IT security guidelines
+ Access rights also based on HMI access rights
+ No validation-relevant change in case of upgrade

Technical requirements
+ Compatible machine types with HMI software level Visual 7 or higher
+ The machine must be integrated in an IT network (TCP/IP).
+ The mobile device must be within the machine network or communication (e.g. via network routes) must be possible.
+ The appropriate firewall rules must be entered for specific connections.
Pmax® turret – more production capacity without higher investments

<table>
<thead>
<tr>
<th>Machine type</th>
<th>FE35</th>
<th>FE55</th>
<th>FE75</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stations</td>
<td>27</td>
<td>33</td>
<td>51</td>
</tr>
<tr>
<td>Max. rotation speed (min⁻¹)</td>
<td>90</td>
<td>120</td>
<td>120</td>
</tr>
<tr>
<td>Punch type</td>
<td>EU1⁺ EU19 FS12⁺</td>
<td>EU1⁺ EU19 FS12⁺</td>
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</tr>
<tr>
<td>Pmax® turret – more production capacity without higher investments</td>
<td></td>
<td></td>
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</tr>
</tbody>
</table>

**FEATURES**

- Optimized punch head
- Higher number of punches per compression
- More punches at the same time under the compression station
- No further machine investments necessary
- Production parameters and characteristics stay unchanged
- Single tablet rejection of bad tablets
- Single compression force measurement even with small tablet diameters

**BENEFITS**

- Long dwell times
- Up to 40% higher output
- Smooth machine running
- Higher return on investment
- No further machine adjustments necessary
- 100% quality assurance through in-process-control
- Approved alternative to multi-tip tooling

FS12⁺ increase up to 40% more output

<table>
<thead>
<tr>
<th>Yield (Tablets/h)</th>
<th>146,900</th>
<th>237,600</th>
<th>367,200</th>
<th>243,000</th>
<th>432,000</th>
<th>626,400</th>
<th>594,000</th>
<th>1,080,000</th>
<th>1,656,000</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stations</td>
<td>27</td>
<td>33</td>
<td>51</td>
<td>45</td>
<td>60</td>
<td>87</td>
<td>55</td>
<td>75</td>
<td>115</td>
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<tr>
<td>Max. rotation speed (min⁻¹)</td>
<td>90</td>
<td>120</td>
<td>120</td>
<td>90</td>
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<td></td>
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</tr>
</tbody>
</table>
Whether round tablets, special shapes, relief moldings, concavities or break lines – Fette Compacting can handle the full range of customer requirements.

To ensure maximum output and flexibility, we offer punches in all sizes and types. For customers with special demands on their production, we particularly recommend the FS® products.

It is not just the diameter of the contact area that is critical; but furthermore the optimised transition geometries into the head radius which are featured by our FS® technology transmit the compression forces in an optimum way.

Fette Compacting – Punch head types

FS Technology®

Standard

EU19

TSM19

TSM19 domed head (TED19)

EU1*

TSM1*

TSM1* domed head (TED1*)

All measurements are in mm