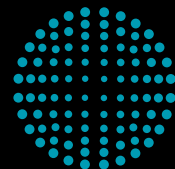


Next Generation Tableting Technology

# F E35



**FETTE  
COMPACTING**  
be efficient

# 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.**



reddot design award  
winner 2013



product  
design award

2013



German  
Design Award

WINNER 2014

# Fette Compacting FE35 – for the fastest product changeover

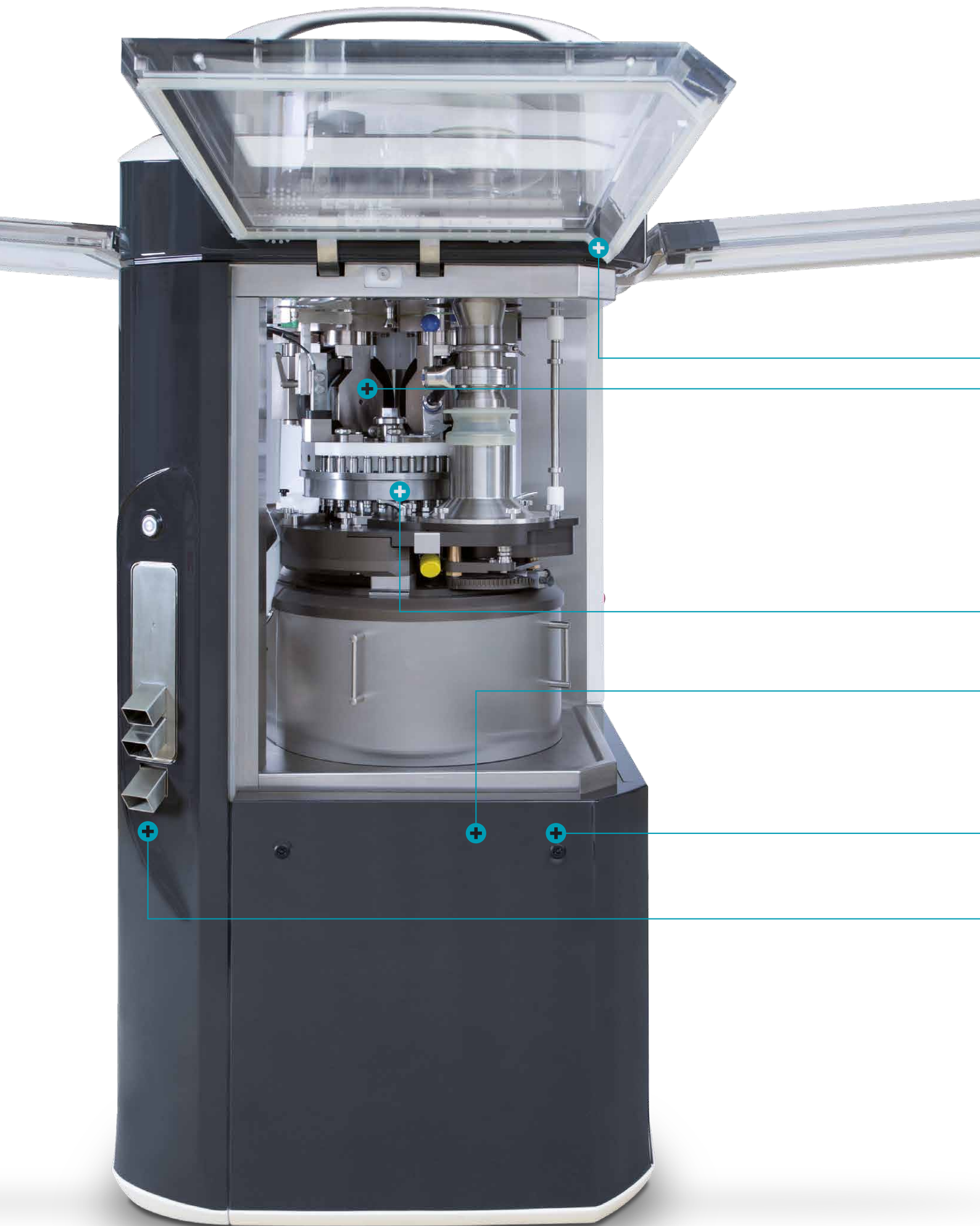


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COMPACTING

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



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## **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
- + Flexible use also of segment or die turrets

## **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

- + Dust-proof and hermetically-sealed electrical cabinet – therefore no contact with ambient air

## **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

# TRI.EASY Design – Ease of operation as the key to efficiency

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.

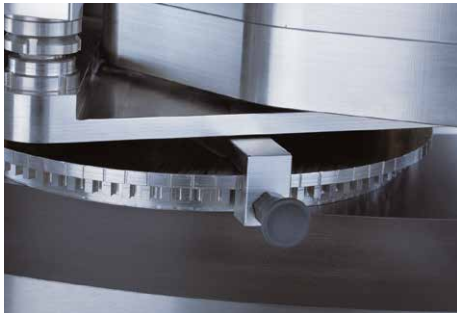
The TRI.EASY design is oriented precisely around the needs of the user, offering comprehensive help to make every task more straightforward. A short learning curve and significantly more secure handling on the part of the operating personnel, ensure maximum product quality even with the most demanding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





#### **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**

- + Pneumatic product scraper for maximum performance
- + 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

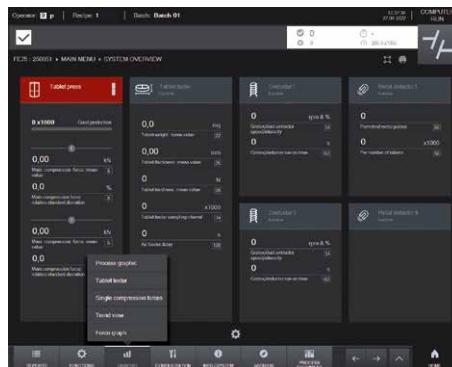




### HMI software to support the operation

New Visual 8 operating software from Fette Compacting

- + New 19" "Touch Only" machine operation
- + Country-specific keyboard layouts possible, unique tactile feedback
- + Touch sensitive keys for start, stop and special functions with feedback for easy operation
- + Ultra Vision screen display for maximum contrast even in difficult lighting conditions
- + Microsoft Windows embedded operating system, future-proof operating system
- + SQL Server database, Real-time intelligence
- + Dust-tight USB port, no mechanical drives
- + All surfaces easy to clean, no ventilation slots or openings, ergonomic operator height



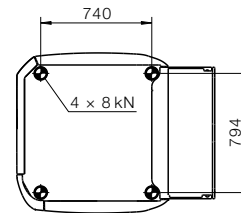
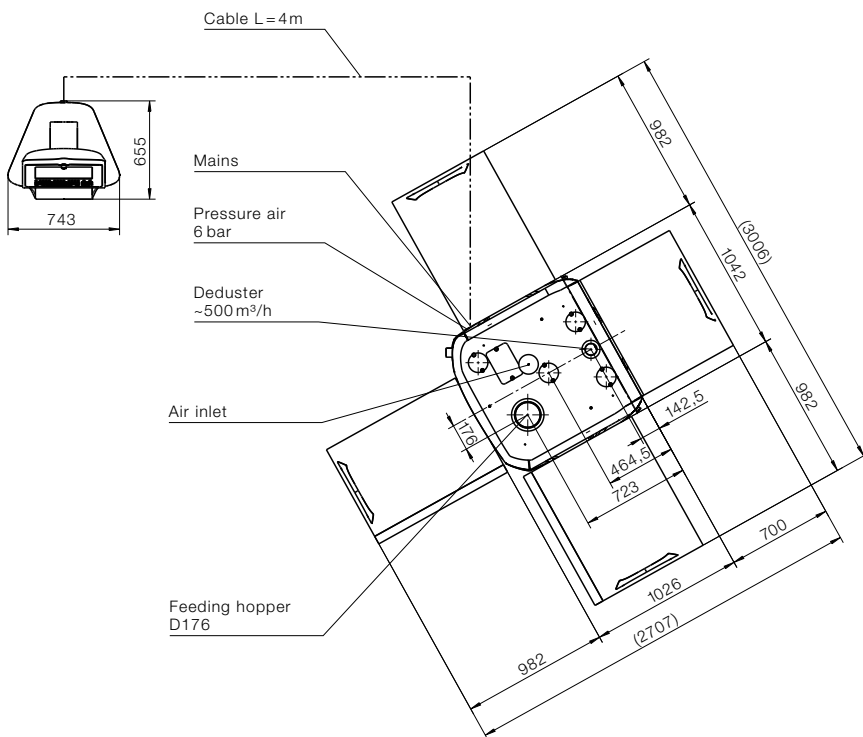
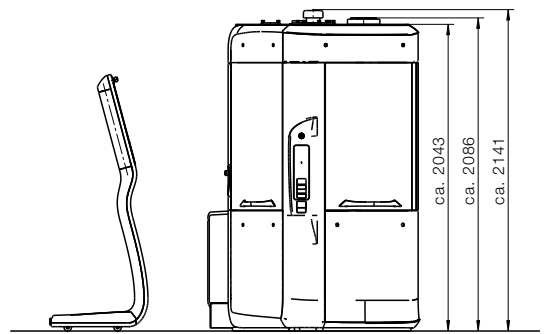
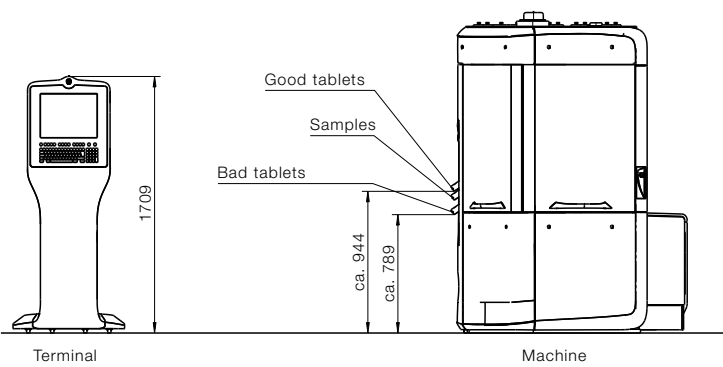
### FEATURES

- + Clear process graphics showing all necessary parameters
- + New Visual 8 operating software
- + Individually configurable parameter lists
- + New 19" "Touch Only" machine operation
- + Terminal made of FDA-certified high-performance polymer
- + HMI and software identical for the entire FE Series

### BENEFITS

- + Easy, intuitive operation through self-explanatory pictograms
- + Direct access to Fette Compacting presses
- + Fast, easy machine operation
- + Country specific keyboard layouts possible
- + Smooth, easily cleaned surfaces
- + Intuitive operation of the FE Series for the user

# Dimensions



Foundation loading

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 x 10 mm<sup>2</sup>

<b>Segments (S) / Dies (D)</b>		S	S	S	S	D	D	D
<b>Number of punch stations</b>		51	33	27	24	35	28	23
<b>Punch type</b>		FS12®	FS19®/ EU19 FS®/ EU19 TSM19	EU1" TSM1"	EU1"-441	FS19®/ EU19 FS®/ EU19 TSM19 BB	FS19®/ EU19 FS®/ EU19 TSM19 B	EU1"/ EU1"-441 TSM1" D
<b>Tablet output units/h</b>	min.	45,900	29,700	24,300	21,600	31,500	25,200	20,700
	max.	367,200	237,600	145,800	129,600	252,000	201,600	124,200
<b>Max. compression force 1*</b>	kN	34	80	80	80	80	80	80
<b>Max. compression force 2*</b>	kN	34	80	80	80	80	80	80
<b>Max. tablet diameter</b>	mm	11	18	25	25	18	18	25
<b>Max. filling depth**</b>	mm	20	20	20	20	18	18	18
<b>Pitch circle diameter</b>	mm	325	325	325	325	325	325	325
<b>Turret rotation speed</b> min.	min <sup>-1</sup>	15	15	15	15	15	15	15
	max.	120	120	90	90	120	120	90
<b>Segment / Die height</b>	mm	25	25	25	25	22.225	22.225	23.8
<b>Die diameter</b>	mm					24	30.16	38.1
<b>Punch shaft diameter</b>	mm	12	19	25.35	25.35	19	19	25.35
<b>Punch length</b> Upper/lower punch	mm	133.6	133.6 (133.35)	133.6 (133.35)	133.6	133.6 (133.35)	133.6 (133.35)	133.6 (133.35)
<b>Upper punch insertion depth</b>	mm	1-4	1-4	1-4	1-4	1-4	1-4	1-4
<b>Dimensions</b>	mm	1,026 × 1,042 × 2,043 without integrated switch cabinet 1,336 × 1,042 × 2,043 with integrated switch cabinet						
<b>Weight</b>		Tablet press 2,800 – 3,000 kg, operating terminal 100 kg, switch cabinet 350 kg						
<b>Electrical supply parameters</b>		Operating voltage 400 – 480 V, 50/60Hz, power consumption 14 kW						

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

# SmartInterface – Real-time data, at all times, and independent of location



## Machine monitoring in real time

The SmartInterface is a server based application enabling the monitoring of tablet press production parameters and HMI settings via mobile devices (Laptop, Tablet, 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. 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 network. Accordingly, only the user's own IT security guidelines apply.

## KEY BENEFITS

- + Retrieve data at any time and from anywhere, even in editable formats such as Excel, without blocking the machine or impacting production
- + Process acceleration through easy and fast access to production parameters and HMI settings
- + Data update <1s (dependent on the customer network and capacity utilization)
- + 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 a later upgrade



## Process graphic

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

## Monitoring all process data

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

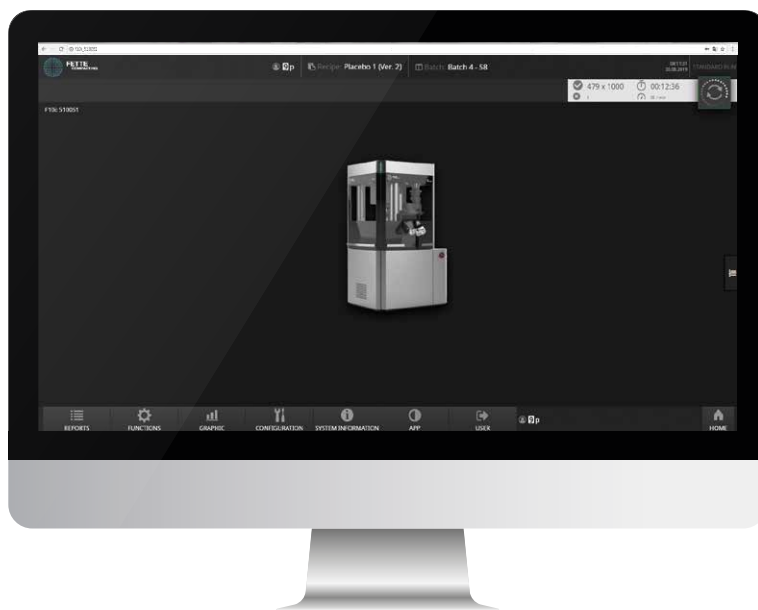
## KPI dashboard

The KPI dashboard provides an overview of the current production and machine status.



## TECHNICAL REQUIREMENTS

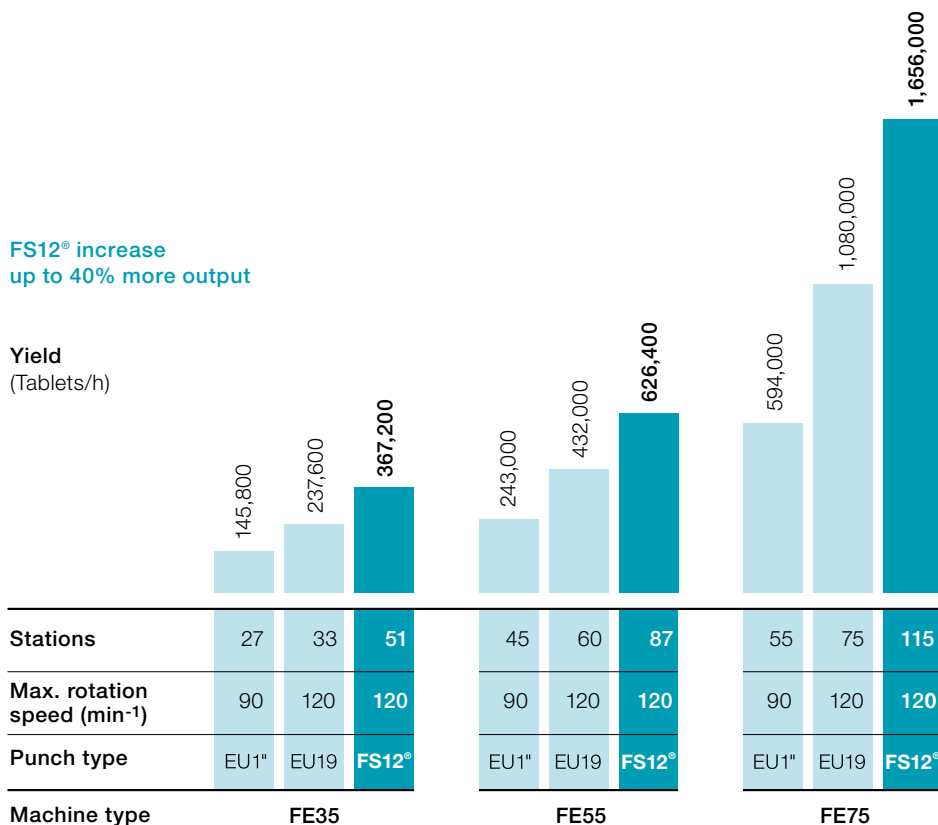
- + Compatible machine types with HMI software level Visual 7 or higher (FE Series, new i Series, FE CPS)
- + FE Series: Using or upgrading to an APC910 unit enables full functionality and performance
- + FE Series: When using an APC810 unit test operation is possible
- + The machine must be integrated 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 connection specific



# Pmax<sup>®</sup> turret – more production capacity without higher investments

FS12<sup>®</sup> increase  
up to 40% more output

Yield  
(Tablets/h)



Stations	27	33	51	45	60	87	55	75	115
Max. rotation speed (min <sup>-1</sup> )	90	120	120	90	120	120	90	120	120
Punch type	EU1"	EU19	FS12 <sup>®</sup>	EU1"	EU19	FS12 <sup>®</sup>	EU1"	EU19	FS12 <sup>®</sup>
Machine type	FE35			FE55			FE75		

## 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

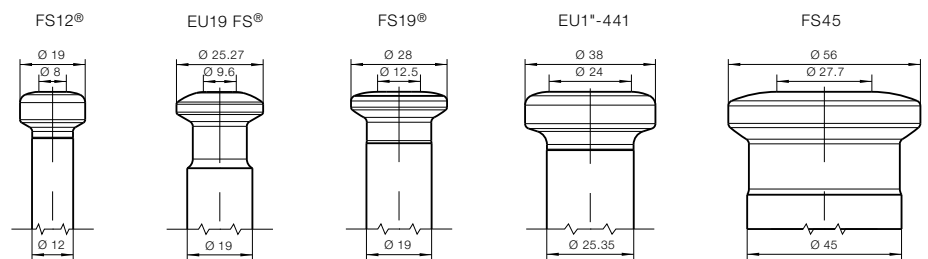


Whether round tablets, special shapes, relief moldings, concavities or break lines – Fette Compacting can handle the full range of customer requirements. To ensure maximum output and flexibility, we offer punches in all sizes and types. For customers with special demands on their production, we particularly recommend the FS® products.

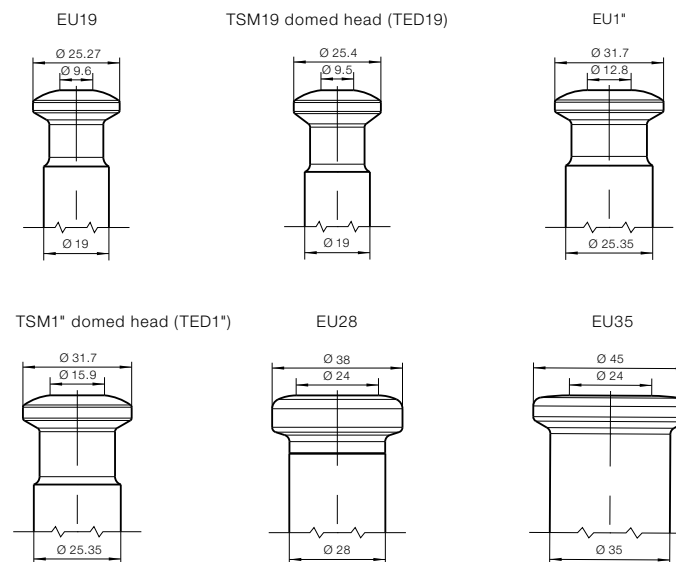
It is not just the diameter of the contact area that is critical; but furthermore the optimised transition geometries into the head radius which are featured by our FS® technology transmit the compression forces in an optimum way.

## Fette Compacting – Punch head types

### FS Technology®



### Standard



All measurements are in mm

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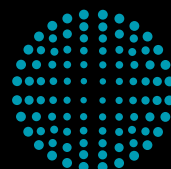
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