



Best seller for diverse production tasks

# 2090i

[www.fette-compacting.com](http://www.fette-compacting.com)

TECHNOLOGY



COMPETENCE

SERVICE



**FETTE  
COMPACTING**

be efficient



This single rotary press combines proven technology with high flexibility. The exchangeable segment and die table packages with 30 to 66 punch stations allow you to quickly change the machine over to different formats. An automatic turret clamping system and maintenance-free servomotors for adjusting

the compression rollers are also integral parts of this model. The optional stainless steel Fill-O-Matic can be retro-fitted and provides the highest process reliability and lowest production loss, even with challenging granules and powders.

FEATURES	BENEFITS
+ Semi-automatic turret exchange	+ Higher availability and quick format changeover for increased annual output
+ User-friendly clamping system	+ Safe installation of exchangeable turret
+ Substantial noise reduction	+ Minimized strain on work and production environment
+ Control terminal with 15" touchscreen	+ Simple handling and operation
+ Simplified, reliable user interface	+ 24-hour user-free production
+ Stainless steel Fill-O-Matic optional	+ GMP-, GAMP- and FDA-compliant

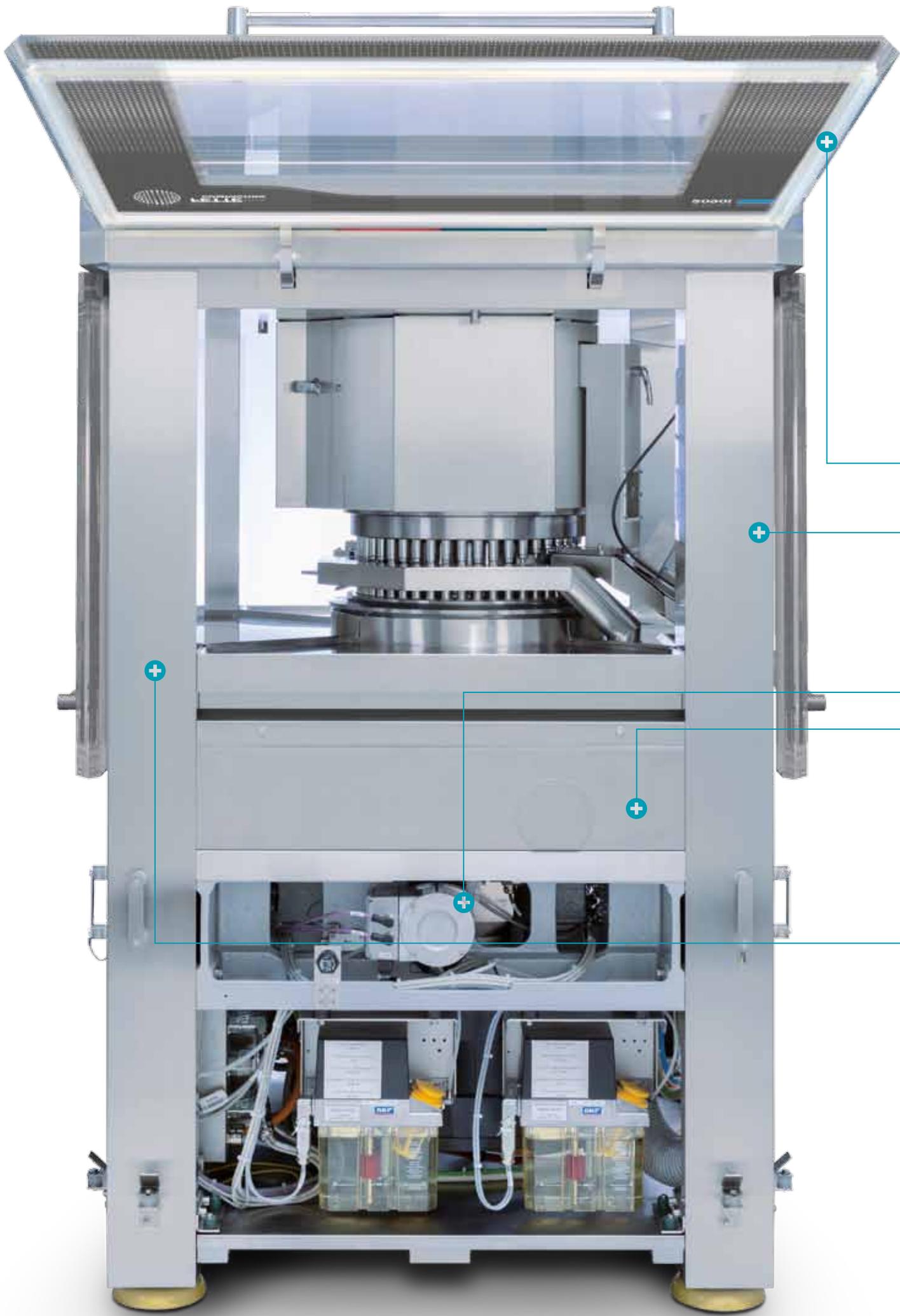


**TECHNOLOGY** stands for everything we offer in production technology – from tablet presses and capsule filling machines through process equipment to tableting tools and format parts.

**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.





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## Increased noise insulation

- + Sheet metal housing with sandwich design
- + Window flaps reinforced, modified seals on flaps
- + Vibration-absorbing cast iron

## Dust-proof upper housing

- + Plug-in dust extraction
- + Efficient dust extractor with low pressure control

## Enclosed press area

- + Unpainted, clean press area
- + Fill-O-Matic with proven three-chamber system:
  - Easy to disassemble
  - Easy to clean
  - Filling, dosing and distribution wheels exchangeable
  - Product loss minimized
  - Stainless steel and washable optional
- + Frameless, double-glazed window flaps
- + Accessible from all four sides
- + Extremely GMP-compliant
- + Easy-to-clean shrouding
- + Smooth surfaces
- + Strict separation between drive units and metering points
- + Removable double-lip seals for window flaps
- + Hopper easily removed by turning downward

## Middle housing

- + Precise turret mount
- + Friction-locked and form-fitting connection between turret and turret shaft
- + Maintenance-free servomotors for adjusting
- + 100 kN pre-compression and main compression possible with large compression rollers

## Drive area

- + Powerful, state-of-the-art direct torque drive for maintenance-free operation
- + Vibration-free mounted floor plate
- + Drive unit mounted and torque stabilized
- + Stable, precision-tapered roller bearings for turret shaft

## MODULAR MECHANICAL LAYOUT

- + Pre-compression and main compression stations same size and interchangeable
- + Extensive exchange of components with other Fette Compacting tablet presses
- + Minimized spare parts inventory
- + Reduced spare parts costs
- + Maintains precision even under stress: Static / dynamic / thermal
- + Optimized strength characteristics (FEM calculation)
- + Peak reliability
- + Long maintenance intervals
- + Platform strategy with clear division into four sections: Upper housing / press area / middle housing / drive area

# Operation and Control



## **Simple press operation**

- + By touchscreen
- + Graphical user interface
- + User interface with clear division for intuitive learning
- + User-friendly, ergonomic design
- + Structured diagnostic messages for correcting malfunctions
- + Optional display of production-specific characteristics in addition to lists
- + Help texts for parameter and diagnostics descriptions
- + All production-relevant data at a glance
- + Simple configuration by accessing preconfigured batch data
- + Nine different user levels for extra security as an option
- + Optional password management through use of Windows user administration
- + OCIF/OPC interface

## **Powerful control panel**

- + 15" touchscreen
- + Better usability of symbols and buttons
- + Powerful industry PC
- + Optional DVD drive
- + Windows operating system
- + Uninterruptible power supply prevents data loss
- + Individual height adjustment that can be saved by each user



### **Comprehensive documentation**

- + User intervention consistently documented (change log)
- + Process data documentation (diagnostics log)
- + Status documentation (diagnostics log)
- + Overview with automatic analysis
- + Batch log

### **Stable control**

- + Direct control and regulation of all motorized adjustment options on machine
- + Data recording from all metering points
- + Clearly structured control circuits
- + High-precision, compression-based single tablet rejection
- + Redundant compression force measuring
- + Ejection force measuring
- + Punch tightness measuring
- + Patented punch control
- + Punch-based ejection for batch sampling
- + Extraction control and monitoring

### **Safety-oriented electrical cabinet**

- + Flexible separation between grey and white area
- + Real-time, state-of-the-art computer systems
- + Electrical components completely closed off from ambient air
- + All components directly accessible
- + Calibrating unit makes it possible to adjust measuring circuits at any time
- + Easily exchange computer or control components
- + Highly resistant to interference and EMC compatibility
- + All connection cables can be plugged in on either end
- + Strict separation between power and control components
- + Unique cooling design through two separated circuits
- + Temperature reduction through stand-by mode



# Productivity

## High performance

- + Max. 475,200 tablets per hour
- + 24-hour user-free production
- + Simple, flexible integration in production lines
- + Top format flexibility

## Secure production

- + Reproducibility for all tablet parameters
- + Top quality features

## Fully modular system

- + 2090i tablet press with exchangeable turret, incl. punches and cams
- + Control and analysis unit with 15" touchscreen

## Greater availability

- + Faster turret changing with semi-automatic removal arm
- + Reduced cleaning time through easier accessibility
- + Reduced idle time through use of second exchangeable turret, complete with cams and tools
- + Increased annual output through use of optimal turret for tablet diameter





### Semiautomatic, mechanical removal arm

- + Mechanics, no hydraulics in press area
- + Removal arm is integrated into a support and returns after changing the turret (optional depending on model)

### Fast, safe turret exchanging

- + Particularly fast turret exchanging through:
  - Patented clamping system
  - Automatic centering on counter-bearing
- + Wide open window flaps allow access from all sides
- + Pressing stations do not need to be removed to change turret
- + Menu-based terminal operation with advanced security via acknowledgement commands prevent user error and damage



### Ample format diversity

- + Segment and die table options for 30 to 66 punching stations

### Tablets in many sizes

- + Easy conversion to new formats
- + Fast, uncomplicated access
- + Secure mechanical fittings



### Turret with patented features

- + Turret also available in stainless steel or chromium-plating:
  - Higher wear resistance
  - Higher chemical resistance
  - Lower surface roughness, smoother surfaces
  - Better and faster cleaning (washable)
- + Patented punch saving system to prevent punch damage

# Stainless Steel Fill-O-Matic



## Cleanability and simplicity as design philosophy

The stainless steel Fill-O-Matic's simplicity, smooth, GMP-compliant surfaces and easy cleanability make it captivating not just when installed in the tablet press, but also by itself. Installation and removal have been simplified while retaining the expected high level of precision when filling dies and minimizing product loss.

## Proven parts retained, new parts integrated effectively

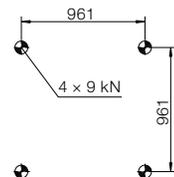
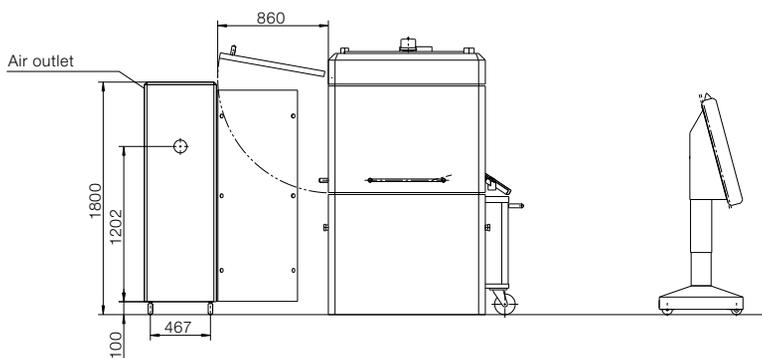
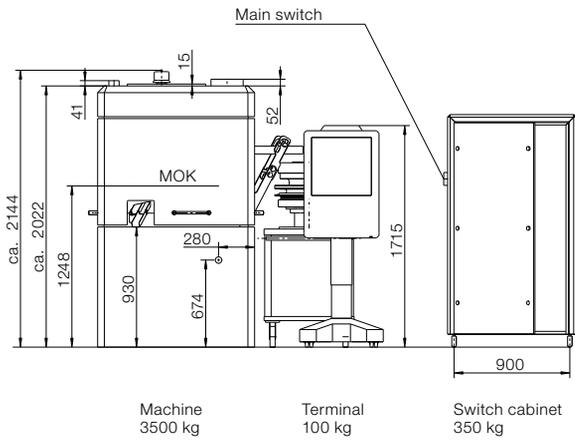
- + Maintains proven three-chamber system
- + Exchangeable for aluminum Fill-O-Matic
- + Easy to remove
- + Easy to clean – high chemical resistance
- + Smooth, GMP-compliant surfaces with minimal surface roughness
- + Filling, dosing and distribution wheels with flat bars in stainless steel, with round rods optional
- + Easily change direction on dosing wheel
- + Clean separation in filling chambers between gearbox and drive system
- + All parts in contact with product can be cleaned in a wash center
- + Optional baseplate with interchangeable slide-in inserts for adapting to different tablet diameters and reducing product loss
- + Integrated mount for product scraper behind Fill-O-Matic
- + GMP-compliant surfaces with a surface roughness of  $<0.3 \mu\text{m}$ ; advantage: quick cleaning
- + Fill plate with three replaceable sealing segments to adapt to the tablet diameter; Advantage: Reduction of product loss



# Dimensions



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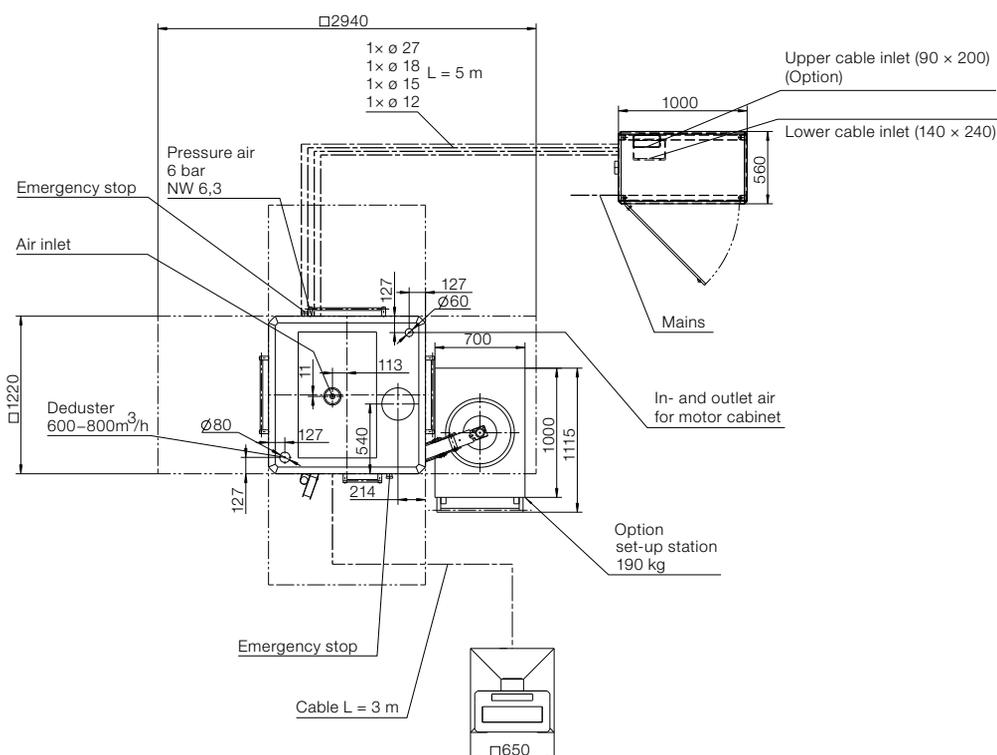


Foundation loading

Pressure air min. 6 bar for turret removal system  
+ Dosing head  
+ Option: air reject system

Main  
400/440/480 V – 50–60 Hz

Connection  
4 x 6 mm<sup>2</sup> – on floor  
4 x 10 mm<sup>2</sup> – cable conduit



# Technical Data

<b>Die (D) / Segments (S)</b>		D	D	D	D
<b>Number of punch stations</b>		47	43	36	30
<b>Punch type</b>		FS19®/EU19 BBS	FS19®/EU19 TSM19 BB	FS19®/EU19 TSM19 B	EU1"/ EU1"-441 TSM1" D
<b>Tablet output units/h</b>	min.	42,300	38,700	32,400	27,000
	max.	338,400	309,600	259,200	180,000
<b>Max. compression force 1*</b>	kN	100	100	100	100
<b>Max. compression force 2*</b>	kN	100	100	100	100
<b>Max. tablet diameter</b>	mm	11	13	18	25
<b>Max. filling depth</b>	mm	18	18	18	22
<b>Pitch circle diameter</b>	mm	410	410	410	410
<b>Turret rotation speed</b> min.	mm <sup>-1</sup>	15	15	15	15
	max.	mm <sup>-1</sup>	120	120	120
<b>Die diameter</b>	mm	22	24	30.16	38.1
<b>Die-/segment height</b>	mm	22.225	22.225	22.225	23.8
<b>Punch shaft diameter</b>	mm	19	19	19	25.35
<b>Punch length</b> Upper/lower punch	mm	133.6	133.6 (133.35)	133.6 (133.35)	133.6 (133.35)
<b>Upper punch insertion depth</b>	mm	1–4	1–4	1–4	1–4
<b>Dimensions</b>	mm	1,220 × 1,220 × 2,022			
<b>Weight</b>	kg	Tablet press 3,300–3,500 kg, operating terminal 100 kg, switch cabinet 350 kg			
<b>Electrical supply parameters</b>		Operating voltage 400–480 V, 50/60 Hz, power consumption 11.5 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

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S	S	S	S
66	45	36	33
FS12®	FS19®/EU19 TSM19	EU1" TSM1"	EU1"-441
59,400	40,500	32,400	29,700
475,200	324,000	216,000	198,000
33	100	100	100
33	100	100	100
11	18	25	25
22	22	22	22
410	410	410	410
15	15	15	15
120	120	100	100
-	-	-	-
25	25	25	25
12	19	25.35	25.35
133.6	133.6 (133.35)	133.6 (133.35)	133.6
1-4	1-4	1-4	1-4

**Fette Compacting GmbH**

Grabauer Strasse 24  
21493 Schwarzenbek  
Germany  
Phone +49 4151 12-0  
Fax +49 4151 3797  
tablet@fette-compacting.com

**Fette Compacting America, Inc.**

400 Forge Way  
Rockaway N.J. 07866  
USA  
Phone +1 973 5868722  
Fax +1 973 5860450  
sales@fetteamerica.com

**Fette Compacting America Latina Ltda.**

Av. Cambacica, 1200 módulo 10  
Parque Imperador  
CEP 13097-160 Campinas/SP  
Brazil  
Phone/Fax +55 19 37969910  
contato@fette-compacting.com.br

**Fette Compacting Mexico, SA de CV**

Adolfo Prieto No. 1638  
Colonia Del Valle Sur  
03100 Mexico, DF  
Mexico  
Phone +52 55 4000 0653  
tablet@fette-compacting.com

**Fette Compacting (China) Co., Ltd.**

8 Phoenix Road Jiangning Development Zone  
211100 Nanjing  
China  
Phone +86 25 52121818  
Fax +86 25 52129951  
fcn@fette-compacting.com

**Fette Compacting Machinery  
(India) Private Limited**

401 to 404, 4th Floor,  
Dynasty Business Park, B wing,  
Near J. B. Nagar Metro station,  
Andheri – Kurla Road,  
J. B. Nagar, Andheri East,  
Mumbai – 400 059  
India  
Phone +91 2242163300  
sales@fette-compacting.in

Competence Centre:  
Plot No S 115, Phase III B  
Verna Industrial Estate  
Verna, Goa 403 722  
India  
Phone +91 832 6690307

**Fette Compacting Asia Pacific Pte Ltd.**

107 Eunos Avenue 3, #01-01  
Singapore 409837  
Singapore  
Phone +65 6592 5654  
Fax +65 6547 1939  
infoasiapacific@fette-compacting.com

**Fette Compacting Ibérica, SL**

Calle Saturno 1  
28760 Tres Cantos  
Spain  
Phone +34 91 8039689  
Fax +34 91 1730017  
fcib@fette-compacting.com

**Fette Compacting et Uhlmann France SAS**

1, Rue du Centre  
93160 Noisy Le Grand  
France  
Phone +33 155 812121  
Fax +33 155 812120  
contact@fette-uhlmann.fr

**Fette Compacting Middle East FZE**

Jebel Ali Free Zone Jafza  
Lobby 14, Office 308  
Dubai  
United Arab Emirates  
Phone +971 48808226  
tablet@fette-compacting.com

[www.fette-compacting.com](http://www.fette-compacting.com)



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