

The World of Dr. Fritsch: FAST/SPS & Powder Processing Technologies

FAST/SPS
SINTERING PRESS

DSP 507



Benefits with Dr. Fritsch

Experience:

- Leading in FAST/SPS technology since 1953
- More than 1.000 FAST/SPS Sinter Presses installed worldwide
- Quality Made in Germany

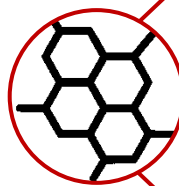
Application Center:

- Most machines available for testing and product development
- Powder processing equipment
- CAD Mold Design
- Consulting & Support

Customized Turnkey Solutions for:

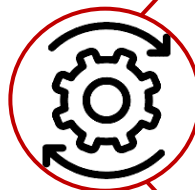
- FAST/SPS sintering
- Automation
- Powder Processing

FAST/SPS Advantages



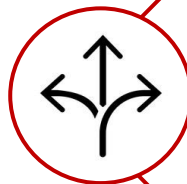
Improved Material Properties:

- Significant reduction of grain growth (esp. for nanoscale)
- Highest density achievable
- Homogeneous microstructure



Highest Productivity

- Very short sinter cycles
- Near net shape production reduces or even omits post-processing steps, which are necessary when using traditional sintering techniques



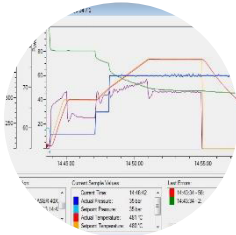
Highest Flexibility

- Development time for new materials can be substantially shortened
- Quick change over to other materials and dimensions



Click [here](#) or scan QR-code to watch a FAST/SPS sintering demonstration

Product Features



Precise control

All sintering parameters (pressure, temperature, travel distance and time) can be controlled and monitored exactly via visualization software and process management.



R&D and small production

The DSP 507 is ideal for R&D applications and the production of small quantities. Research departments and universities typically operate it.



Easy operation & Low maintenance

Easy operation by a touch panel. Clear and intuitive menu navigation. Low maintenance due to high quality standards.

Machine Data

	<u>Standard</u>	<u>Option</u>
Electric Power: - Total electric power: - Max. heating power: - Max. heating current: - Total electric load:	Approx. 85 kVA 79 kVA Up to 20.800 A, 4 tappings available 3 x 120 A	(other voltages and frequencies are possible on request)
Vacuum:	20 mbar	0,05 mbar
Pressing force: - normal / differential switching: - effective pressing area of cyl.: - oil pressure:	22 – 259 kN 86,6 cm ² 25 – 300 bar 2,5 – 30 MPa	2 – 100 % regulation: 3 – 28 kN and 22 – 259 kN 9,6 cm ² and 86,6 cm ² 30 – 300 bar and 25 – 300 bar 3 – 30 MPa and 2,5 – 30 MPa
Graphite electrodes: - dimensions (WxDxH): - max./min. opening height: - specific resistance:	165 x 145 x 40 mm 180 / 30 mm 12 – 14 μΩm	200 x 200 x 40 mm Ø 200 x 40 mm
Temperature control	Thermocouple Ni-Cr-Ni: up to 1.100 °C three-fold control	Thermocouple Pt-Rh-Pt: up to 1300 °C Pyrometer: 300 – 3.000 °C
Electronic Position sensor:	accuracy 0,1 mm resolution 0,005 mm	
Dimensions: Weight:	according to floor plan approx. 2.200 kg	

Required Infrastructure

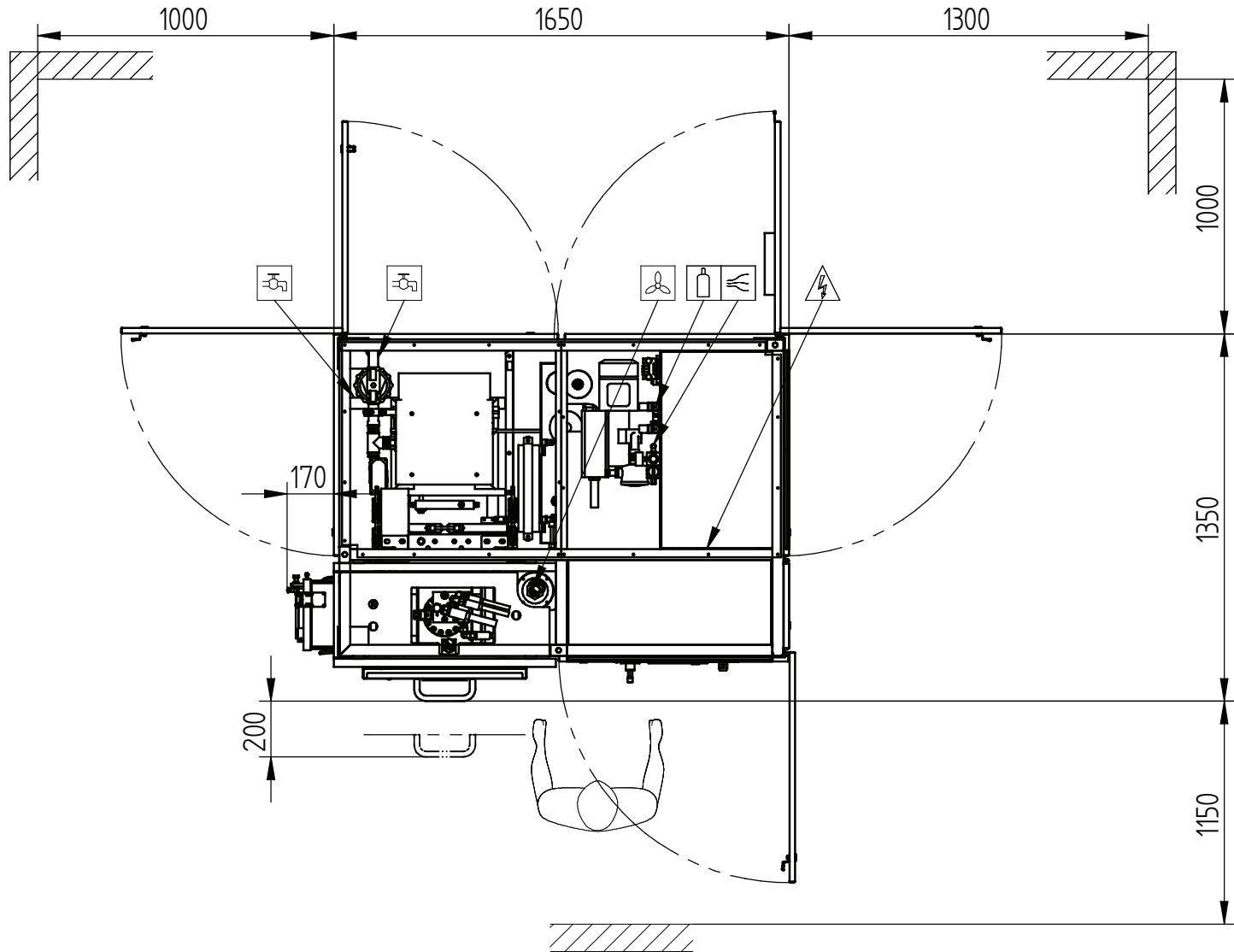
	<u>Standard</u>	<u>Option</u>
Power: Supply voltage: Fuses (provided by customer):	3 x 400 V, 50/60 Hz 3 x 125 A	(other voltages and frequencies are possible on request)
Cooling water: - consumption: - recommended water supply temperature: - pressure: - differential pressure (supply – discharge): - connection:	approx. 90 l/min (at 20 °C) 18 – 22 °C 2 – 4 bar 1 – 2 bar supply: for external thread 1" discharge: for external thread 2"	
Compressed air: - consumption: - pressure: - connection:	approx. 5 l/min (depending on process) 4 – 6 bar hose nozzle for hose with inner Ø 8 – 9 mm	
Inert gas: - consumption: - pressure: - connection: - types:	approx. 300 – 1000 l/h (depending on process) 1 – 2 bar plug-type adapter for hose with outer Ø 6 mm nitrogen, forming gas (max. 5 % H ₂), noble gas	
Suction system: - connection: - recommended air flow rate:	provided by customer connection piece for hose or pipe with inner Ø 100 mm approx. 500 m ³ /h	

Subject to modifications of technical data and design

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Dosing – Mixing – Granulating – Cold Pressing – FAST/SPS Sintering – Automation





max. Maschinenhöhe: 2150 mm
(max. machine height)
erforderliche Raumhöhe: 2650 mm
(clear height required)

Symbol	Bedeutung (meaning)	Symbol	Bedeutung (meaning)	35 cm — —	DFT031448.dft ASM029306.asm	Aufstellplan floor plan
	Elektrik (electrics)		Gas (gas)		Bearb. 25.04.2012 p_schaefer	
	Pneumatik (pneumatics)		Wand (wall)	Gepr.	Maschinen Typ : DSP507-929 machine type :	
	Kuehlwasser (cooling water)		Arbeiter (operator)	Norm	DR. FRITSCH Sondermaschinen GmbH D-70722 Fellbach	Zeichnungs Nr.: 13C
	Absaugung (suction)					Bl. 3 / 4