

# KOENIG & BAUER

## Laser SPA-F

PACKAGING		
Entry	Advanced	High-End

Marking of variable information on printed packaging  
Extremely high lifetime  
High quality high-speed marking



we're on it.

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## Laser marking

The quality of industrial markings with lasers depends on the **reaction** of the marked **material** (color, coating, condition) and which laser is used (performance, wavelength).

## Material reaction for fiber-laser

Material group	Material	Wavelength	Reaction	
<b>Foil</b>	Aluminum foil	1062 nm	+	
	Polyethylene terephthalate (PET)	1062 nm	+	
	Oriented polypropylene (OPP)	1062 nm	+	
<b>Glass</b>	Glass	1062 nm	-	
	Glass fiber	1062 nm	O	
<b>Wood</b>	Wood	1062 nm	-	
	Thermo-label	1062 nm	-	
	Board	1062 nm	O	
<b>Ceramic</b>	Ceramic	1062 nm	+	
<b>Plastic</b>	Polypropylene (PP)	1062 nm	+	
	Low density polyethylene (LDPE)	1062 nm	+	
	Polystyrene (PS, GPPS, HIPS)	1062 nm	+	
	Acrylnitril-Butadien-Styrol (ABS)	1062 nm	+	
	Polyacetal (POM)	1062 nm	+	
	Polyamide (PA)	1062 nm	+	
	Polycarbonate (PC)	1062 nm	+	
	Polyethylene (PET)	1062 nm	+	
	Polybutylene terephthalate (PBT)	1062 nm	+	
	Polyvinyl chloride (PVC)	1062 nm	+	
	Silicon varnished	1062 nm	O	
	Epoxy resin	1062 nm	+	
	Phenolic resin	1062 nm	O	
	Polyurethane	1062 nm	O	
	<b>Metal</b>	Coated metals	1062 nm	+
		Metals	1062 nm	+
	<b>Organic material</b>	Fruits and vegetables	1062 nm	-
<b>Paper</b>	Paper	1062 nm	O	
<b>Textile</b>	Textile	1062 nm	-	
<b>Label</b>	Label	1062 nm	+	

+ = good  
 0 = potential  
 - = bad

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## Application examples

### SPA-FP; PULSED – laser (for metals and plastics)



### SPA-FF; FILM – Laser (für Folien und beschichtete Verpackungen)



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## SPA-FP 20W

Model	SPA-FP			
<b>Name</b>	LASER_SPA-FP-S20-AP90-ED5		LASER_SPA-FP-S20-AP90-MD5	
<b>Material number</b>	1040.4885		1040.6615	
<b>Shutter</b>	Electronic		Electromechanical	
<b>Performance</b>	20 W			
<b>Pulse duration</b>	100 ns			
<b>Pulse performance</b>	9,4 kW			
<b>Pulse energy</b>	1 mJ			
<b>Frequency</b>	20-200 kHz			
<b>Connection values</b>	115 V / 230 V ; 50 Hz / 60 Hz ; 500 VA			
<b>Wavelength</b>	1062nm			
<b>Beam path</b>	90°			
<b>Weight</b>	Head: 6 kg; control unit: 22 kg			
<b>Protection class</b>	IP 54			
<b>Assembly</b>	Laser, scanner and scanner control are integrated in the laser head, control electronics and energy supply are integrated in the control unit, pilot laser (just works with open shutter)			
<b>Environment</b>	Temperature + 15° to + 40° C, relative humidity max. 95 %			
<b>Cooling system</b>	Integrated air cooling			
<b>Control</b>	PC-software, touchscreen terminal			
<b>Interfaces</b>	Ethernet TCP/IP, I/O, USB (RS 232 need adaptor)			
<b>Operating system</b>	ScanLinux V5.2.7			
<b>Speed (1-line)</b>	250 m/min (coding speed can differ depending on size, content and material)			
<b>Lens</b>	<b>Mat. no.</b>	<b>Working space</b>	<b>Working distance</b>	<b>Beam diameter</b>
	1040.6607	55x55 mm	128 mm	16 µm
	1040.6608	100x100 mm	205 mm	26 µm
	1040.6609	168x168 mm	347 mm	41 µm
	1040.6610	212x212 mm	458 mm	56 µm
	1040.6611	242x242 mm	554 mm	68 µm
	1040.6613	560x560 mm	889 mm	132 µm
<b>Pilot laser</b>	1040.6034	Pilot laser (works also with closed shutter)		
<b>Plug</b>	1040.4887	I/O plug DB 44		
	1040.4888	Signal plug photo cell I/ 3-pin M8		
<b>Mounting rail</b>	1040.4918	Mounting rails F		
<b>Software</b>	1008.3223	Software Marca V5.6.9.a and higher		
	1000.3850	Bar code license		
<b>Accessories</b>	for details see data sheet accessories and extraction			

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## SPA-FP 50W

Model	SPA-FP			
<b>Name</b>	LASER_SPA-FP-U50-AP90-ED5		LASER_SPA-FP-U50-AP90-MD5	
<b>Material number</b>	1040.6352		1040.6617	
<b>Shutter</b>	Electronic		Electromechanical	
<b>Performance</b>	50 W			
<b>Pulse duration</b>	120 ns			
<b>Pulse performance</b>	7,83 kW			
<b>Pulse energy</b>	1mJ			
<b>Frequency</b>	50-200 kHz			
<b>Connection values</b>	115 V / 230 V ; 50 Hz / 60 Hz ; 700 VA			
<b>Wavelength</b>	1062nm			
<b>Beam path</b>	90°			
<b>Weight</b>	Head: 6 kg; control unit: 22 kg			
<b>Protection class</b>	IP 54			
<b>Assembly</b>	Laser, scanner and scanner control are integrated in the laser head, control electronics and energy supply are integrated in the control unit, pilot laser (just works with open shutter)			
<b>Environment</b>	Temperature + 15° to + 40° C, relative humidity max. 95 %			
<b>Cooling system</b>	Integrated air cooling			
<b>Control</b>	PC-software, touchscreen terminal			
<b>Interfaces</b>	Ethernet TCP/IP, I/O, USB (RS 232 need adaptor)			
<b>Operating system</b>	ScanLinux V5.2.7			
<b>Speed (1-line)</b>	250 m/min (coding speed can differ depending on size, content and material)			
<b>Lens</b>	<b>Mat. no.</b>	<b>Working space</b>	<b>Working distance</b>	<b>Beam diameter</b>
	1040.6607	55x55 mm	128 mm	27 µm
	1040.6608	100x100 mm	205 mm	44 µm
	1040.6609	168x168 mm	347 mm	69 µm
	1040.6610	212x212 mm	458 mm	94 µm
<b>Pilot laser</b>	1040.6034	Pilot laser (works also with closed shutter)		
<b>Plug</b>	1040.4887	I/O plug DB 44		
	1040.4888	Signal plug photo cell I/ 3-pin M8		
<b>Mounting rail</b>	1040.4918	Mounting rails F		
<b>Software</b>	1008.3223	Software Marca V5.6.9.a and higher		
	1000.3850	Bar code license		
<b>Accessories</b>	for details see data sheet accessories and extraction			

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## SPA-FP 100W

Model	SPA-FP			
<b>Name</b>	LASER_SPA-FP-U100-AP90-ED5		LASER_SPA-FP-U100-AP90-MD5	
<b>Material number</b>	1040.7780		140.7782	
<b>Shutter</b>	Electronic		Electromechanical	
<b>Performance</b>	100 W			
<b>Pulse duration</b>	80 to 120 ms			
<b>Pulse performance</b>	9,39 kW			
<b>Pulse energy</b>	1mJ			
<b>Frequency</b>	50-500 kHz			
<b>Connection values</b>	115 V / 230 V ; 50 Hz / 60 Hz ; 700 VA			
<b>Wavelength</b>	1062nm			
<b>Beam path</b>	90°			
<b>Weight</b>	Head: 6 kg; control unit: on request			
<b>Protection class</b>	IP 54			
<b>Assembly</b>	Laser, scanner and scanner control are integrated in the laser head, control electronics and energy supply are integrated in the control unit, pilot laser (just works with open shutter)			
<b>Environment</b>	Temperature + 15° to + 40° C, relative humidity max. 95 %			
<b>Cooling system</b>	Integrated air cooling			
<b>Control</b>	PC-software, touchscreen terminal			
<b>Interfaces</b>	Ethernet TCP/IP, I/O, USB (RS 232 need adaptor)			
<b>Operating system</b>	ScanLinux V5.2.7			
<b>Speed (1-line)</b>	250 m/min (coding speed can differ depending on size, content and material)			
<b>Lens</b>	<b>Mat. no.</b>	<b>Working space</b>	<b>Working distance</b>	<b>Beam diameter</b>
	1040.6607	55x55 mm	128 mm	27 µm
	1040.6608	100x100 mm	205 mm	44 µm
	1040.6609	168x168 mm	347 mm	69 µm
	1040.6610	212x212 mm	458 mm	94 µm
<b>Pilot laser</b>	1040.6034	Pilot laser (works also with closed shutter)		
<b>Plug</b>	1040.4887	I/O plug DB 44		
	1040.4888	Signal plug photo cell I/ 3-pin M8		
<b>Mounting rail</b>	1040.4918	Mounting rails F		
<b>Software</b>	1008.3223	Software Marca V5.6.9.a and higher		
	1000.3850	Bar code license		
<b>Accessories</b>	for details see data sheet accessories and extraction			



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## SPA-FF 20W

Model	SPA-FF			
<b>Name</b>	LASER_SPA-FF-U20-AF90-ED5		LASER_SPA-FF-U50-AF90-MD5	
<b>Material number</b>	1040.6349		1040.6619	
<b>Shutter</b>	Electronic		Electromechanical	
<b>Performance</b>	20 W			
<b>Connection values</b>	115 V / 230 V ; 50 Hz / 60 Hz ; 450 VA			
<b>Wavelength</b>	1062nm			
<b>Beam path</b>	90°			
<b>Weight</b>	Head: 6 kg; control unit: 22 kg			
<b>Protection class</b>	IP 54			
<b>Assembly</b>	Laser, scanner and scanner control are integrated in the laser head, control electronics and energy supply are integrated in the control unit, pilot laser (just works with open shutter)			
<b>Environment</b>	Temperature + 15° to + 40° C, relative humidity max. 95 %			
<b>Cooling system</b>	Integrated air cooling			
<b>Control</b>	PC-software, touchscreen terminal			
<b>Interfaces</b>	Ethernet TCP/IP, I/O, USB (RS 232 need adaptor)			
<b>Operating system</b>	ScanLinux V5.2.7			
<b>Speed (1-line)</b>	850 m/min (coding speed can differ depending on size, content and material)			
<b>Lens</b>	<b>Mat. no.</b>	<b>Working space</b>	<b>Working distance</b>	<b>Beam diameter</b>
	1040.6607	55x55 mm	128 mm	27 µm
	1040.6608	100x100 mm	205 mm	44 µm
	1040.6609	168x168 mm	347 mm	69 µm
	1040.6610	212x212 mm	458 mm	94 µm
<b>Pilot laser</b>	1040.6034	Pilot laser (works also with closed shutter)		
<b>Plug</b>	1040.4887	I/O plug DB 44		
	1040.4888	Signal plug photo cell I/ 3-pin M8		
<b>Mounting rails</b>	1040.4918	Mounting rails F		
<b>Software</b>	1008.3223	Software Marca V5.6.9.a and higher		
	1000.3850	Bar code license		
<b>Accessories</b>	for details see data sheet accessories and extraction			



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## SPA-FF 50W

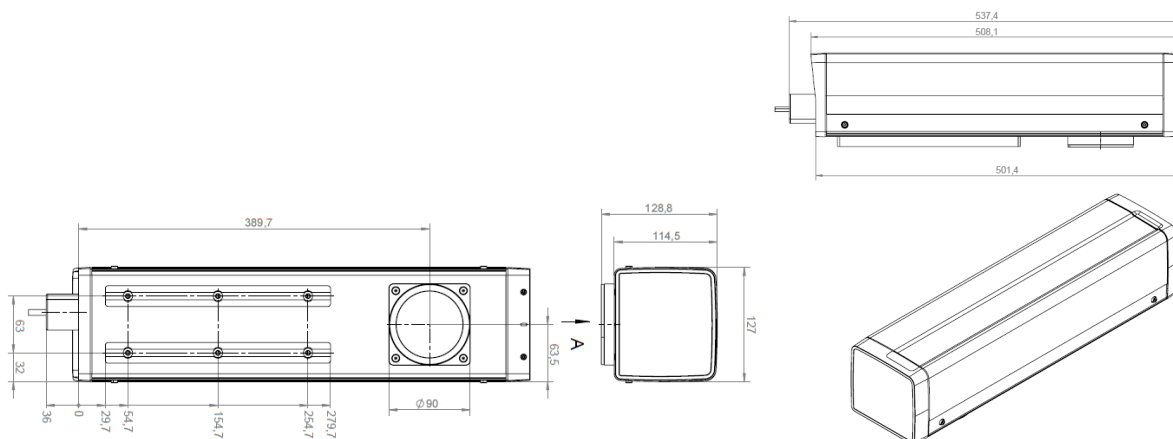
Model	SPA-FF			
<b>Name</b>	LASER_SPA-FF-U50-AF90-ED5		LASER_SPA-FF-U50-AF90-MD5	
<b>Material number</b>	1040.6353		1040.6621	
<b>Shutter</b>	Electronic		Electromechanical	
<b>Performance</b>	50 W			
<b>Connection values</b>	115 V / 230 V ; 50 Hz / 60 Hz ; 650 VA			
<b>Wavelength</b>	1062nm			
<b>Beam path</b>	90°			
<b>Weight</b>	Head: 6 kg; control unit: 22 kg			
<b>Protection class</b>	IP 54			
<b>Assembly</b>	Laser, scanner and scanner control are integrated in the laser head, control electronics and energy supply are integrated in the control unit, pilot laser (just works with open shutter)			
<b>Environment</b>	Temperature + 15° to + 40° C, relative humidity max. 95 %			
<b>Cooling system</b>	Integrated air cooling			
<b>Control</b>	PC-software, touchscreen terminal			
<b>Interfaces</b>	Ethernet TCP/IP, I/O, USB (RS 232 need adaptor)			
<b>Operating system</b>	ScanLinux V5.2.7			
<b>Speed (1-line)</b>	850 m/min (coding speed can differ depending on size, content and material)			
<b>Lens</b>	<b>Mat. no.</b>	<b>Working space</b>	<b>Working distance</b>	<b>Beam diameter</b>
	1040.6607	55x55 mm	128 mm	27 µm
	1040.6608	100x100 mm	205 mm	44 µm
	1040.6609	168x168 mm	347 mm	69 µm
	1040.6610	212x212 mm	458 mm	94 µm
<b>Pilot laser</b>	1040.6034	Pilot laser (works also with closed shutter)		
<b>Plug</b>	1040.4887	I/O plug DB 44		
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<b>Software</b>	1008.3223	Software Marca V5.6.9.a and higher		
	1000.3850	Bar code license		
<b>Accessories</b>	for details see data sheet accessories and extraction			

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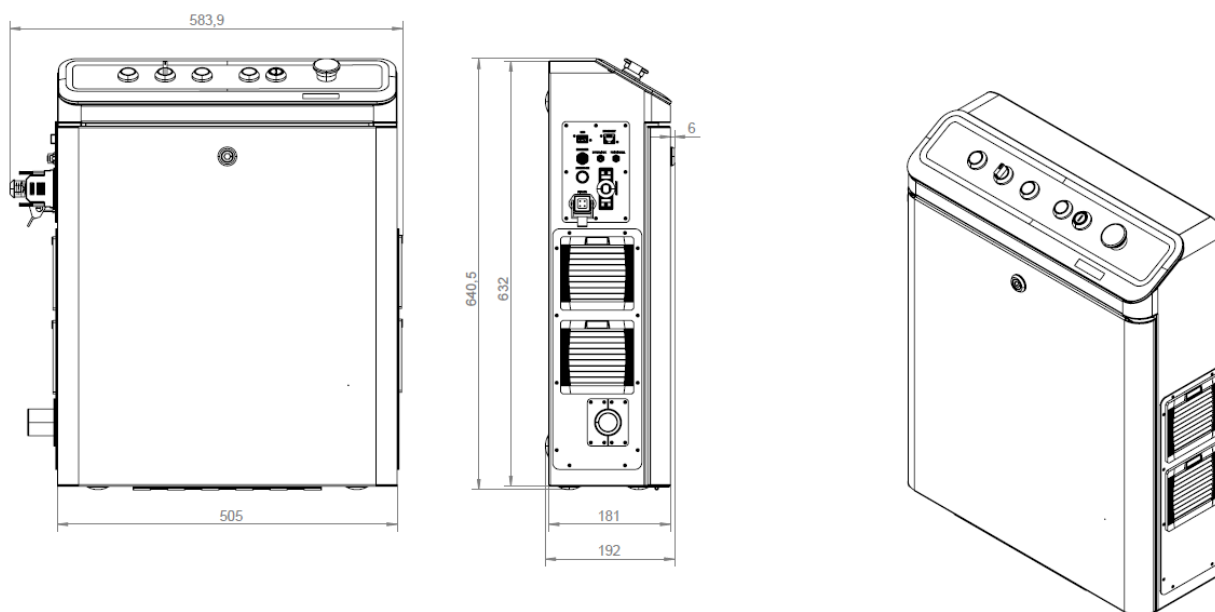
## Dimensions

### SPA-FP-S 20W (Standard)

head



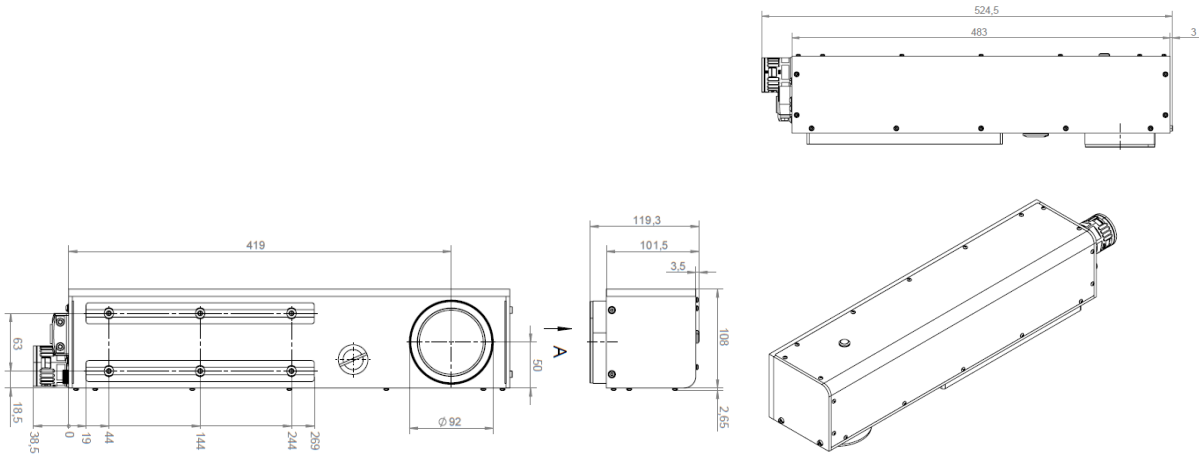
control unit



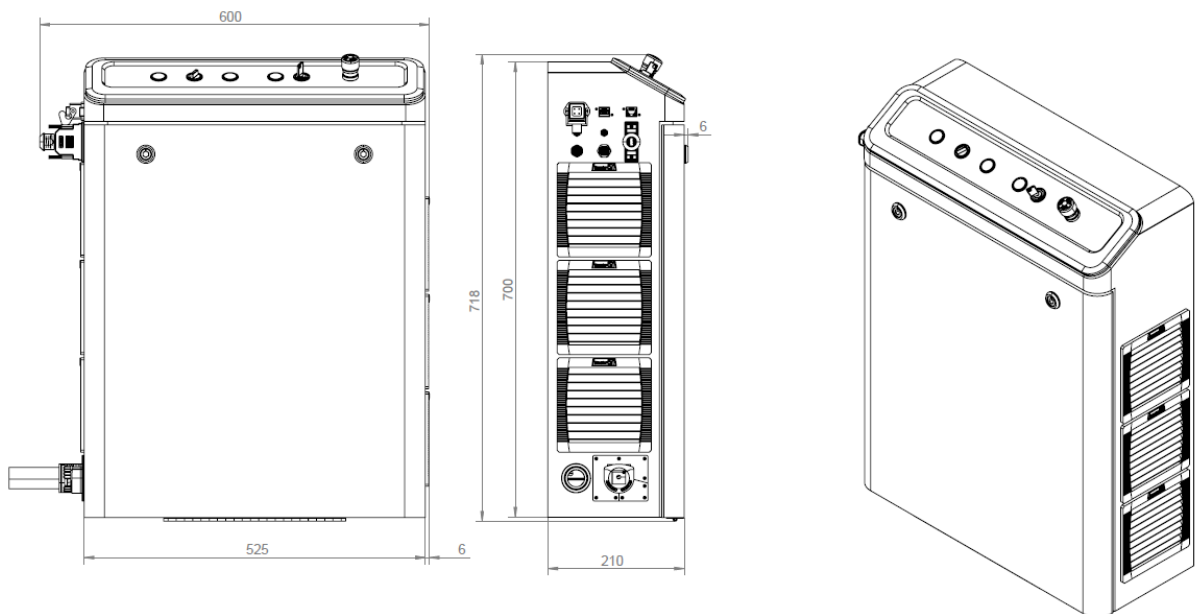
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## SPA-FP-U 50W, 100W (UHS)

head



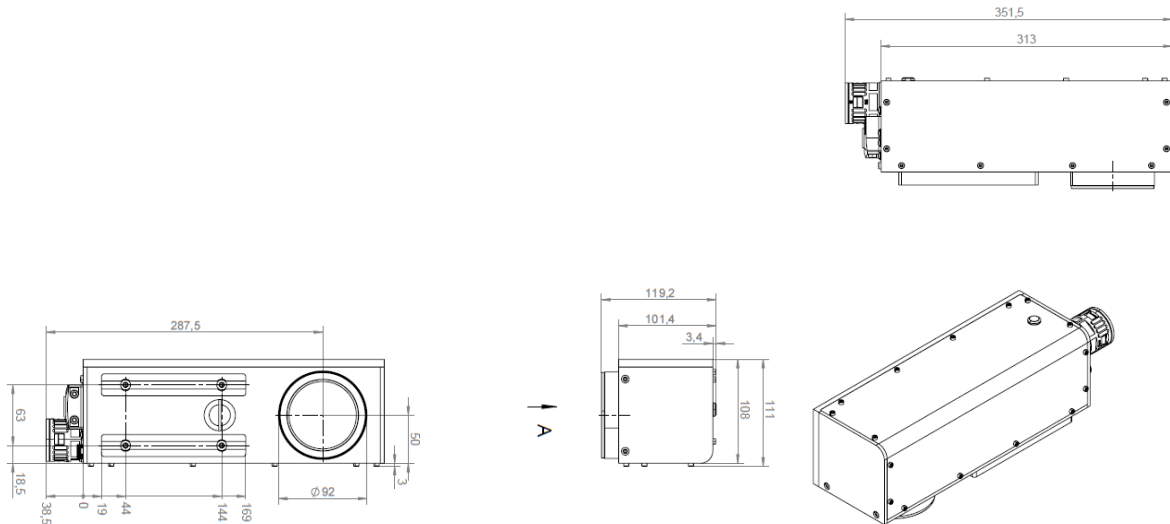
control unit



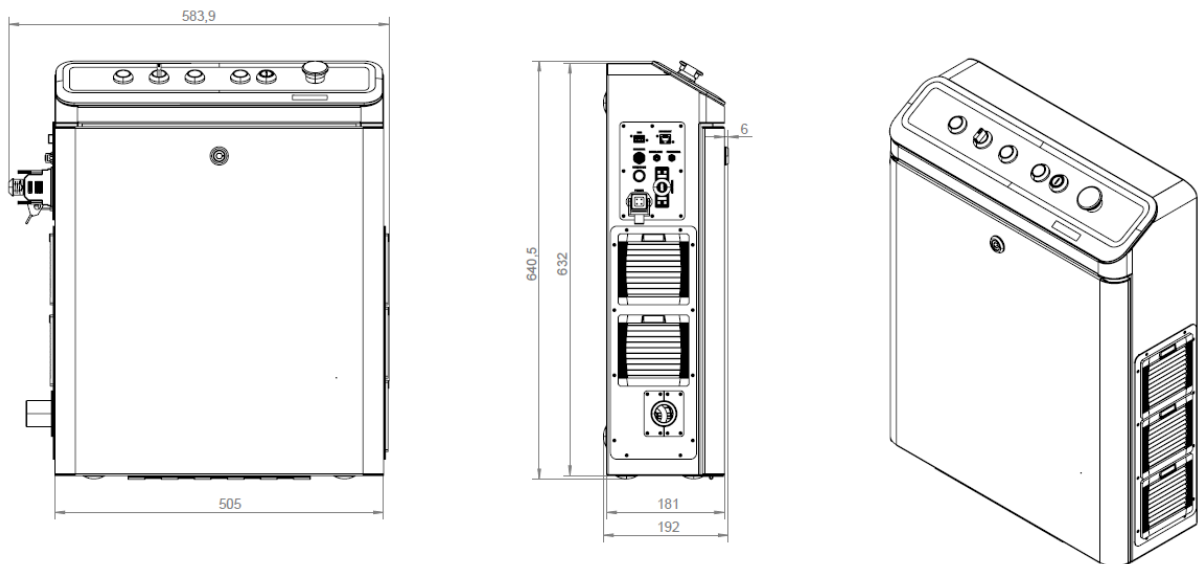
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## SPA-FF-U 20W (UHS)

head



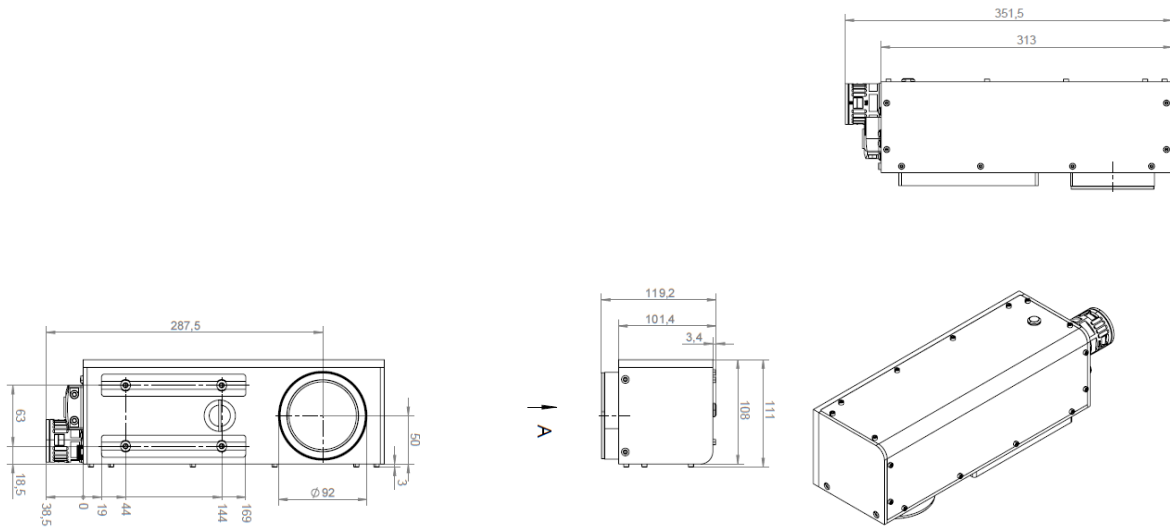
control unit



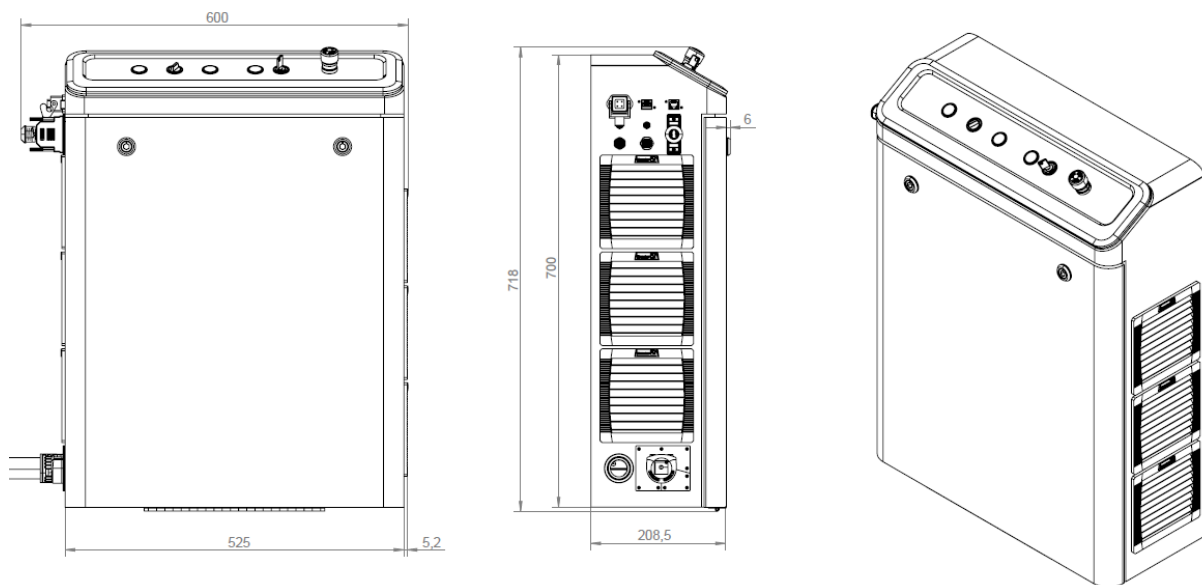
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## SPA-FF-U 50W (UHS)

head

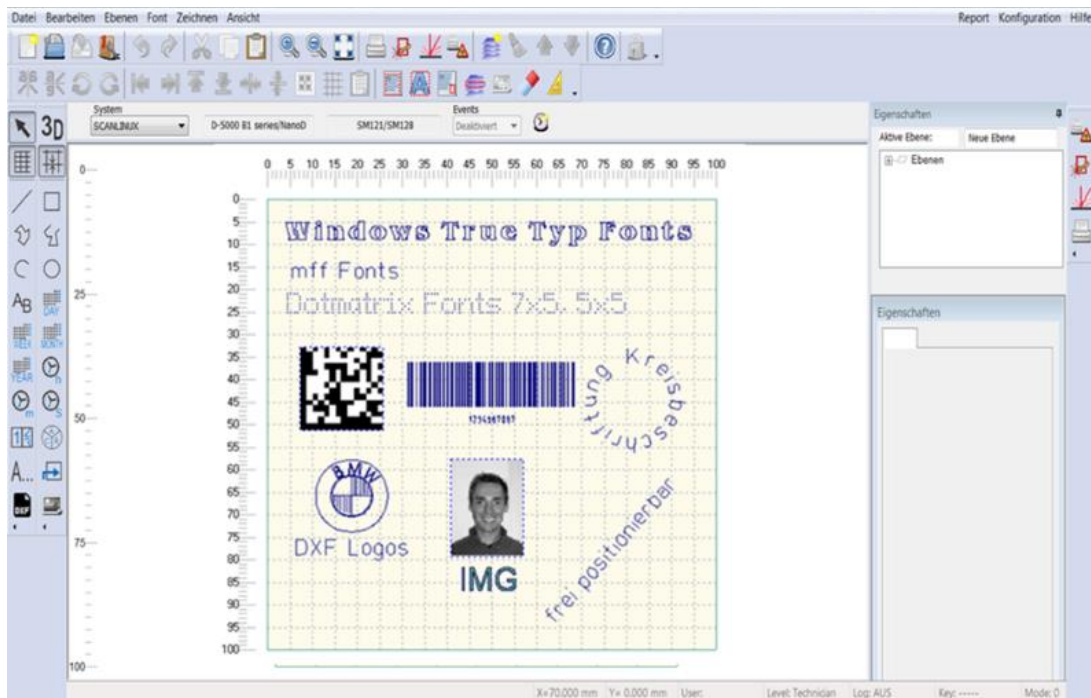


control unit



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## Software



- Marca PC software with windows interface (7, 8, 10)
- WYSIWYG display
- Freely selectable character size and alignment
- Variable date and time formats
- Serial numbering or text passages
- Text list
- Circular marking
- Logos or graphics loaded in DXF or IMG format
- Bar codes, 2D codes
- True Type Fonts, Unicode, MFF Fonts, Crystal Fonts 5x5, 7x5
- Database printing
- Logos and graphics can be created via integrated vector graphic function
- Font Editor
- Multilayer function
- Event handler
- And much more

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## Order code

		<b>LASER</b>	-	<b>SPA-FP</b>	-	<b>S</b>	<b>20</b>	-	<b>AP</b>	<b>90</b>	-	<b>E</b>	<b>D</b>	<b>5</b>
<b>Typ</b>														
LASER	Lasert													
<b>Model</b>														
SPA-FP	Faser Pulsed													
SPA-FF	Faser Film													
<b>Option</b>														
S	Standard (nur 20W Pulsed)													
U	UHS													
<b>Leistung</b>														
20	20 Watt													
50	50 Watt													
<b>Wellenlänge</b>														
AP	1064 nm pulsed													
AF	1064 nm film													
<b>Strahlaustritt</b>														
90	90°													
<b>Shutter</b>														
E	Electronic													
M	Electromechanic													
<b>Schutzart</b>														
5	IP 54													

## Quality

ISO-certification by DIN EN ISO 9001-2015

Made in Europe.

Our quality requirements include the process of continuous improvement. Design and technical changes are reserved without previous announcement.

## Contact

Koenig & Bauer Coding GmbH

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