ALLSHAPE 3D PRINTING SYSTEMS

Datasheet ALLshape Base1 CoreXY SLS 3D printer

The ALLshape Base1 is a benchtop SLS 3D printer capable of High Quality prints. The X and Y axis use linear rail guides for very stable movements with high speeds and accelerations. The recoater uses a counter rotating roller for optimal powder distribution with high packing density. The powder buffer, build camber and overflow bins are part of a removable cartridge that is prepared outside of the printer. To start a print just slide the loaded cartridge into the Base1 and select a G-code via the touch screen or over the WIFI connection. After the print is finished and cooled down, slide the cartridge out of the printer and de-powder you prints.

Software:	
Mainboard firmware	Reprap Firmware
Display firmware	BTT TFT50 firmware
Temperature controller	ALLshape temperature controller firmware
Slicer	Cura (preferred version 5.x)

Hardware:	
Mainboard	32 bit cpu
Display	5” touchscreen TFT50
Laser type	450 nm diode laser, focusable
Laser power	2,5 watt optical power
Heating	8x PWM controlled Halogen heaters
Heaters	14x Hi temp. halogen bulbs 60 watt.
Temperature sensor	16x12 pixel IR sensor
WIFI	ESP32
Kinemetics	CoreXY
Stepper motors	Nema 17
Stepper motor drivers	DRV8825
Construction	All metal
Powder Applier	Counter rotating roller
X Y axis	MGN 12 linear rail

Spec's	
Outer printer dimensions WxDxH	508x474x614 mm
Weight	42kg
Power supply	230 Vac 16 Amp
Rated power consumption	900 watt (max. while heating up)
General power consumption	±550 watt (when at temperature.)
Dimensions build volume X, Y, Z	140x110x125 mm
Usable build volume X, Y, Z	130x100x115 mm *
Diagonal max size	200mm
Typical layer height	0.1mm
Laser spot size	±0.28 mm (focusable)
Max. Powderbed temperature	180°C (limited by firmware)
Resolution X axis	0.025mm
Resolution Y axis	0.025mm
Resolution Z axis	0.01mm
Print speed (X Y movements)	400 mm/sec max.
Heat up time (room temperature to first layer)	±7 minutes

*Usable height depends on slicer settings, more surplus powder per layer change is less build height.