# **Technical Data**

#### Hardware revision v1.0

#### General/dimensions/weights

Housing	aluminum-profile framework acrylic glass integrated LED lighting
Positioning system	extruder head mounted on belt driven H-frame (X/Y-axis) screw driven print table (Z-axis)
3D printing technology	Fused Filament Fabrication (FFF)
Length	800mm
Width	600mm
Height	800mm
Weight	49kg (empty)
Connection cable	1.000mm w. Schuko plug and IEC connector

#### **Temperatures**

Extrusion temperature	max. +300°C
Print bed temperature	max. +130°C
Print chamber temperature	max. +70°C

#### Hot ends

	Bore diameter [mm]	Recommended layer height First layer / following
Screwable M6 brass nozzles A/F8	2×0.25	0.25 / 0.10 - 0.20
(included in delivery)	2×0.35 <sup>1</sup>	0.35 / 0.10 - 0.28
	1×0.50 <sup>2</sup>	0.50 / 0.20 - 0.40
	1×0.75	0.60 / 0.25 - 0.60

<sup>&</sup>lt;sup>1</sup> Installed on the left hot end at delivery and preset in the Slic3r profiles available at the **GitHub repository** for single and dual extruder prints.

#### **Print**

Print volume	200x185x280mm (10.4 liter)
Extruder head	dual extruder with two separate extruder nozzles for multi-colored and/or multi-material printing
Print bed	exchangeable 210x210mm PEI/glass fabric/carbon composite sheet
Layer height	min. 0.1mm
Reproduction accuracy	±0.2mm
Tolerance	±0.2mm

<sup>&</sup>lt;sup>2</sup> Installed on the right hot end at delivery and preset in the Slic3r profiles available at the **GitHub repository** for support material in dual extruder prints.

	X=0.028mm
Positioning step-width axes	Y=0.019mm
	Z=0.003mm

#### **Material**

Printable materials	ABS, PLA, HIPS, PVA, PC, PA12, PET
Filament diameter	2.85±0.1mm
Available filament qty.	0.75kg spool (200x55mm) 2.30kg spool (296x100mm)

## **Power and Electronics**

Power consumption (total)	approx. 800W
Power supply unit	1000W with 12V(DC) connector panel, power plug and main switch 110 230V(AC), 13-6.5A, 50/60Hz
Drives	3x 1.2A stepper motor (XYZ positioning drives) 2x 1.2A planetary gear drive stepper motor (extruder drives)
Stand-alone operating module integrated capacitive 10" touchscreen controller	
Integrated computer	BeagleBone Black
Machine control	RUMBA microprocessor board
Load switching	5x 15A MOSFET board
Fans	3x 119x119x25mm, 12V, 140m³/h axial fan (heat chamber circulation and cooling system) 1x 80x80x25, 12V, 33m³/h axial fan (air filter)
Network	Ethernet 10/100, RJ45

#### Sensors

Limit switch H-frame (X/Y) and print table (Z)	magnetic hall endstops
Filament end recognition	mechanic limit switch
Temperature sensors extruder nozzle, print table, print chamber	300°C thermistors

## Closed loop water cooling system

Pump	12V(DC) circulation pump with integrated compensation reservoir
Throughput	approx. 210l/h
Radiator	120mm full copper radiator
Fan	see electronics
Hose diameter	G1/4"
Coolant	Innovatek Protect IP ready-to-use
Coolant qty.	approx. 250ml

## Air filter

Air filter	fan duct with exchangeable activated charcoal container
Fan	see electronics
Filling	10g, Ø4mm activated charcoal granules

## **Ambient conditions**

Operating temperature	+18°C +27°C
Storage temperature	+5°C +35°C
Rel. air humidity	max. 70%
TSellin Sile	no excessive formation of dust (e.g. near woodworks, CNC machining centers)