

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	800 mm
Width	600 mm
Height	800 mm
Weight	49 kg (empty)
Connection cable	1.000 mm

Temperatures

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

Print

Print volume	200 x 185 x 280 mm (10.4 liter)
Extruder head	dual extruder with two separate extruder nozzles for multi-colored and/or multi-material printing
Extruder nozzle diameters	0.25 / 0.35 / 0.5 / 0.75 mm
Print bed	exchangeable 210 x 210 mm PEI/glass fabric/carbon composite sheet
Layer height	min. 0.1 mm
Reproduction accuracy	±0.1 mm
Tolerance	±0.1 mm
Positioning step-width axes	X=0.028 mm Y=0.019 mm Z=0.003 mm

Electronics

Drives	3 x 1.2 A stepper motor (XYZ positioning drives) 2 x 1.2 A 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	5 x 15 A MOSFET board
Power supply unit	1000 W with DC connector panel, power plug and main switch 110 ... 230 V AC, 13-6.5 A, 50/60 Hz

Fans	3 x 119x119x25 mm, 12 V, 140 m ³ /h axial fan (heat chamber circulation and cooling system) 1 x 80x80x25, 12 V, 33 m ³ /h axial fan (air filter)
Network	Ethernet 10/100, RJ45

Sensor technology

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

Material

Printable materials	ABS, PLA, HIPS, PVA, PC, PA and more
Filament diameter	2.85±0.1 mm
Available filament qty.	0.75 kg spool (200 x 55 mm) 2.30 kg spool (296 x 100 mm)

Closed loop water cooling system

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

Air filter

Air filter	fan duct with exchangeable activated charcoal container
Fan	see electronics
Filling	10 g, Ø4 mm activated charcoal granule

Ambient conditions

Operating temperature	+18 °C ... +27 °C
Storage temperature	+5 °C ... +35 °C
Rel. air humidity	max. 70 %