

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 |

Hot ends

| | Bore diameter [mm] | Recommended layer height First layer / following |
|--------------------------------------|-----------------------|---|
| Nozzle sizes included in delivery | 2×0.25 | 0.25 / 0.10 - 0.20 |
| | 2×0.35 ¹ | 0.35 / 0.10 - 0.28 |
| | 1×0.50 ² | 0.50 / 0.20 - 0.40 |
| | 1×0.75 | 0.60 / 0.25 - 0.60 |

¹ 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.

² 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.

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, PA12, PET |
| Filament diameter | 2.85±0.1mm |
| Available filament qty. | 0.75kg spool (200x55mm) 2.30kg spool (296x100mm) |

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 granule |

Ambient conditions

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