Makerspace technical specifications

Boston Micro Fabrication S240 Micro printer

Create components with microscopic features and exceptional precision using our Boston Microfabrication (BMF) S240a. This technology is ideal for medical devices, microfluidics, research applications and complex proof-of-concept development where conventional manufacturing methods cannot achieve the required level of detail.

- Ultra-high resolution 3D printer for producing engineering-grade materials on the micron scale
- Printing in photosensitive resins and ceramics
- XY optical resolution of 10µm and positional accuracy of 1µm
- Build volume of 100 x 100 x 75 mm
- Adjustable layer thickness of 10-40µm
- Achievable surface roughness of 0.4µm Ra on part top, and 1.5µm Ra on part side

Ultimaker S8 Pro FDM 3D Printers

Rapidly produce everything from durable prototypes to functional parts with our Ultimaker S8 Pros.

- Ideal for rapid prototyping in low-temperature polymers
- Large build volume of 330 x 240 x 300mm
- Dual extrusion
- Adjustable layer height of 60-400µm
- XY print speed of 500mm/s

Formlabs Form 4 SLA Printer

Produce highly detailed parts with exceptional surface finish using the Formlabs Form 4B, with biocompatible, flexible and engineering grade material options available.

- Stereolithography printer for high-detail, advanced material printing
- Build volume of 200 x 125 x 210 mm
- Adjustable layer height of 25-300µm
- XY resolution: 50µm
- Rigid, flexible, tough and high temperature materials available

Laserscript LS6090 Pro Laser Cutter

Quickly manufacture custom components, enclosures, fixtures and prototypes using our Laserscript LS6090 Pro. Laser cutting offers a fast and precise way to transform digital designs into functional parts across a wide range of sheet materials.

- Engraving and cutting in acrylics, paper, fabric, rubber and wood
- Cutting area of 600 x 900 mm
- Locational precision of <10µm

Artec Spider II 3D Scanner

Capture highly accurate digital models with the Artec Spider II. High-resolution scanning enables reverse engineering and part replication.

- Full colour scanning in intricate detail of small objects
- Scan resolution and accuracy of 50µm
- Output in 3D mesh files (including OBJ and STL), CAD files (including STEP and IGES) and measurement files (including CSV and DXF)

Ash Omni 3 Microscope

Analyse, inspect and measure components with our Ash Omni 3 Digital Microscope. This capability supports quality assurance, design verification and manufacturing readiness by providing highly detailed visual and dimensional analysis.

- Digital microscope and measurement system for inspection and measurement
- Optical magnification range of 2.5-68
- Digital magnification range 69-136.5
- Maximum field of vision 200 x 76 mm
- Camera resolution of 1,920 x 1,080 pixels

ZEISS MetroTom 1 CT scanner

In collaboration with TriMech Manufacturing Solutions, we can offer access to CT scanning via their ZEISS MetroTom 1 CT scanner.

- Non-destructively inspect the internal features of an item for defects
- Capture precise 3D data without the need for part preparation
- Ideal for measuring and inspecting medical devices, moulds and 3D prints
- Measuring volume of 165 mm × 140 mm in size
- 160 kV X-ray source for measuring plastic parts and lightweight metals

Tools and consumables

Support rapid prototyping, assembly and testing with access to a range of workshop tools and consumables including:

- Hand tools including sockets, spanners, screwdrivers, pliers, Allen keys, files, hacksaws and measurement tools
- Power tools including cordless drills, jigsaws, circular saws, Dremels, pillar drills, benchtop lathes and mills
- Mechanical and electrical consumables including fasteners, cable ties, heat-set inserts, stripboard, wire and electronic components

Soldering and electronics testing

Design, assemble and test electronic systems using our dedicated soldering and electrical testing workstation, which includes:

- Soldering irons, hot air rework stations and desoldering systems
- Bench power supplies, oscilloscopes and function generators
- Supports PCB assembly, prototyping, debugging and repair

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