

# ELEMENT

## Product Sheet

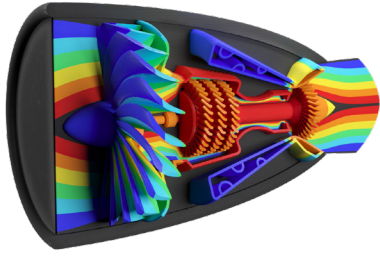
Reliable, Flexible and Intuitive  
3D Printing



**REPRESENTED BY:**  
Allegheny Educational Systems, Inc.  
320 East 3rd Avenue  
Tarentum, PA 15084  
Phone: 800-232-7600  
[www.alleghenyedusys.com](http://www.alleghenyedusys.com)

# ELEMENT

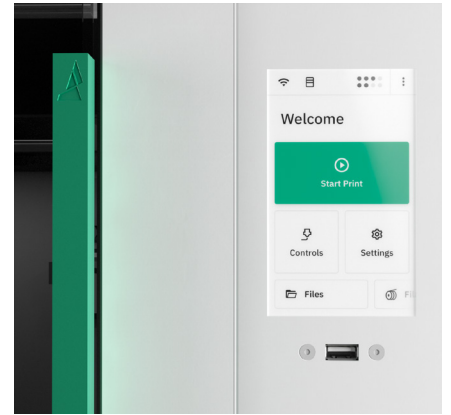
## Key Features



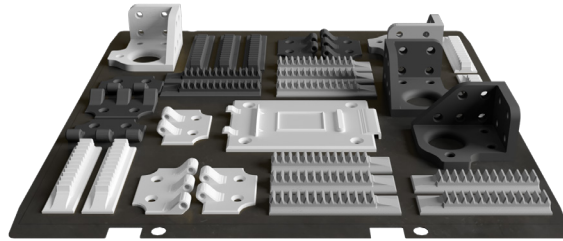
Large volume prints in up to 8 different materials



Modular print head & hardened steel nozzle for precision printing



Integrated touchscreen provides intuitive access to controls.



Print a wide variety of parts with tight tolerances.

- ✓ **Controlled remotely** to monitor and start prints from anywhere
- ✓ Removable build plate speeds up and simplifies bed changes
- ✓ **Automated** calibration with on board sensors further increases ease of use
- ✓ **Automated** filament changeover to maximize printer uptime
- ✓ Cloud based print management with **Canvas** software integration<sup>2</sup>
- ✓ Same durable, all-metal chassis as Element HT

1. Subject to availability, shipping terms and conditions apply.

2. Standard single user license included with both Element and Element HT.

# ELEMENT

## Specification Sheet

Technologies	Fused Filament Fabrication (FFF) enhanced with Mosaic's patented Series Enabled Multi-Material Extrusion (SEME)
Build Envelope	355mm x 355mm x 355mm (14" x 14" x 14")
Construction	Durable all-metal motion systems
Layer Resolution	20-320 microns
XYZ Resolution	12.5 $\mu$ m, 12.5 $\mu$ m, 0.4 $\mu$ m (X, Y, Z)
Max Speed (Travel)	200mm/s
Build Speed	100mm/s
Build Plate	Various coatings on spring steel removable build plate for easy rapid build plate changes
Heated Bed	120°C
Thermal Chamber	N/A <sub>1</sub>
Air Filtration	HEPA filter to remove up to 97.5% of UFP's, and activated carbon filter to reduce VOC's
External Fume Extraction	Integrated 50mm (2 inch) inlet and outlet for optional external fume extraction hook up (purchased separately)
Operating Sound	< 60 dBA
User Interface	5" color touch screen or remote access from Canvas
Monitoring	Live camera inside chamber
Status Indication	RGB Stack Light
Connectivity	WiFi, LAN, USB port
Compatible Models	Print Head 0.4 <sub>1</sub>
Nozzle	0.4mm hardened steel nozzle
Max Nozzle Temp	300°C <sub>1</sub>
Serviceability	Modular extruder, tool-less removable in < 60 seconds
Sensors	filament homing, filament motion, T <sub>environment</sub> , T <sub>hotend</sub> , T <sub>coldend</sub>

# ELEMENT

## Specification Sheet

Filament Cartridges	Mosaic Material Pod V1
Filament Containment	Mosaic Material Pods are reusable, environmentally sealed dry boxes.
Filament Bays	8 receivers for Mosaic Material Pods (1 two-pack of Material Pods included with base Element package)
Filament Loading	Automated filament load, filament retraction
Filament Sensors	Filament homing, filament consumption meter, filament relative humidity, filament temperature
Filament Changer Model	Palette X - Automated material server module including filament drives, a material cutter, filament homing, and filament measurement systems
Nozzle Cleaning	Integrated nozzle wiping pad for materials up to 350°C
Transition Container	Removable container with 38mm x 264mm x 253mm (X x Y x Z) of storage
Currently Supported Materials	Mosaic PLA, Mosaic PETG, Mosaic Origin, Mosaic Matrix, Mosaic Dissolve LT, Mosaic ABS, Mosaic Breakaway LT. Mosaic ESD. Mosaic Flex <sub>2</sub>
3rd Party Filament Support	This system will support 3rd party materials, and any materials that fit in Mosaic's Material Pod will be able to access material automation and multi-material 3D printing
Dimensions	911mm x 634mm x 613mm (X x Y x Z) (with 8 Material Pods attached)
Net Weight	26 Kg (57 lbs) (With 8 Material Pods, No Filament)
Gross Weight	50 kg (110 lbs) (With Packaging and Pallet)
Supplied Software	Canvas. Free print preparation software with optional paid functionality.
Supported OS	MacOS, Windows, and Linux
Power Supply Input	100V - 240V AC, 50/60 Hz, dedicated circuit required
Certifications	cTUVus, EN62368-1: 2014, EN55032: 2015, EMC, CE, RoHS
Warranty	12 months for Element <sub>3</sub>

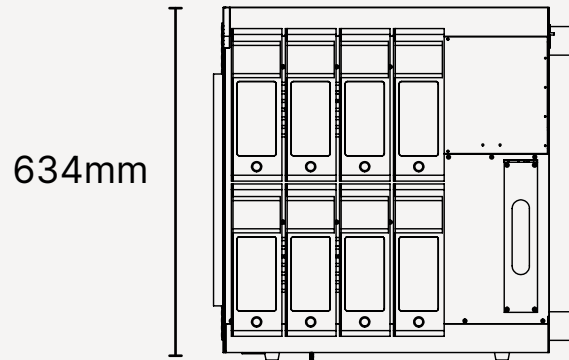
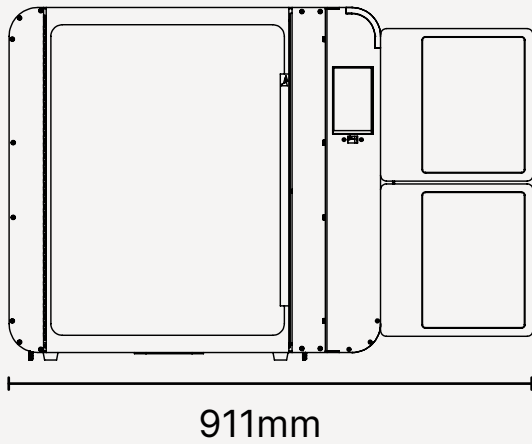
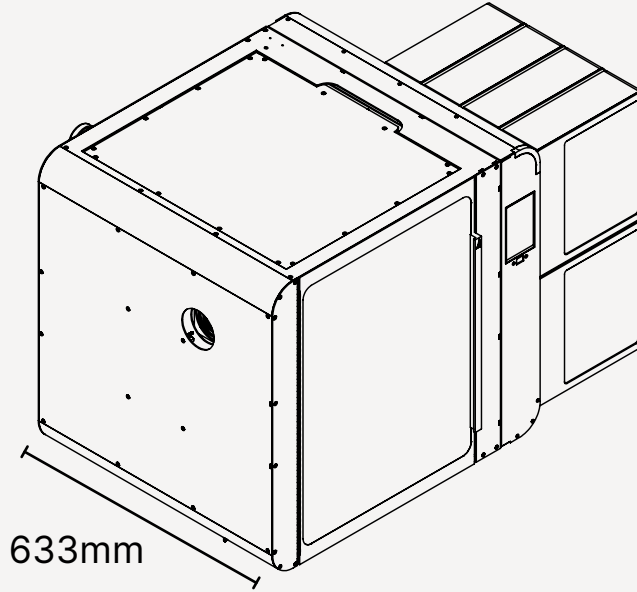
1. The heated chamber, Print Head 0.4 HT and high temperature nozzle are only available on the HT Element configurations.

2. TPE (Thermoplastic Elastimer) as well as many TPU (thermoplastic urethane) materials are not supported for printing in Element. Mosaic Flex is recommended.

3. See individual product warranty for full details.

# ELEMENT

Product Diagrams



Note: All diagrams and technical specifications are approximate and subject to change.  
High temperature beds, chambers and nozzles are only available on Element HT.  
Printing with Industrial materials like Mosaic Peek, PEKK, Ultem 9085 is only available on Element HT.



Mosaic Manufacturing Ltd.  
110 Spadina Ave, Unit 600  
Toronto, ON M5V 2K4  
Canada  
[Sales@mosaicmfg.com](mailto:Sales@mosaicmfg.com)

© 2022 All Rights Reserved.