



CNC Mill



Laser Engrave



3D Print

# BoXZY



## Powerful. Compact. Affordable. A Makerspace-in-a-Box!



With our students' first hand experience in prototyping through 3D printing and laser engraving, they are starting to see that the possibilities are endless.

David Vinopal / Tech Ed Department  
Chairperson  
Derry Area High School



The BoXZY is portable enough to bring to different events to help demonstrate the real side of engineering – the do it side. Used in our labs with our students, it allows them to help make their product ideas into real products, helping them be better prepared for employment.

Antigone Sharris / Founder | GADgET  
Camp for Girls Chair & Faculty,  
Engineering Technology | Triton College



My favorite part about adding these units to our schools is the way classes utilize them in engineering and art programs and to develop a maker/entrepreneurship mind in our students. Seeing students getting back to self discovery with hands-on, state-of-the-art technologies is truly inspiring and well suited for kids' learning styles.

Matthew Pundt / Director of Career  
Education Pre-K to Grade 14  
Erie Public Schools

### BoXZY FOR EDUCATION

Transform your students into **lifelong learners, creators and innovators**. Stoke their **curiosity** and unleash their **creativity**. Get students **excited about STEAM** through physical tangible demonstration. **Empower staff** to teach beyond the limits of print and two dimensions.

**Integrate BoXZY into your curriculum.**

BoXZY combines **interchangeable 3D Printing, Laser Engraving, and CNC Milling** heads into **One Powerful Desktop Makerspace Platform** that enables students and educators to create, innovate and fabricate right from within their own classrooms. With its **compact 16"x14"** footprint, **BoXZY** makes efficient use of space **in labs and on carts**. It liberates hands-on learning and the creative fabrication process from large, expensive, single-function machinery and tech rooms, **to the students wherever they are**.

BoXZY's **three, easy-to-use functions** readily adapt to multiple subjects at all grade levels. Whether it is the study of spatial problems, properties of materials, or simply how to **take an idea from concept to completion**, educators can guide young minds to understand these and other principles **in real time and in three dimensions**.

Bring this power into your classroom.

**Think Inside the BoXZY.**



### BoXZY COMPLETE

**All 3 Functions in 1 Machine**

- Everything: CNC Milling, 3D Printing & Laser Engraving Tool Heads
- Rapid Swap Leveling Bed

MRP **\$4,989** USD



### BoXZY MAKE

**CNC Mill + 3D Printer**

- CNC Milling & 3D Printing Heads
- Rapid Swap Leveling Bed

MRP **\$4,699** USD



### BoXZY CARVE

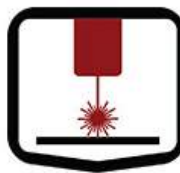
**CNC Mill Upgradeable**

- CNC Milling Tool Head
- Standard Mill Accessories

MRP **\$4,499** USD

*All models include a 1-year subscription to Autodesk Fusion 360 3D CAD Platform*

*Fabricated In Pittsburgh PA USA*



# BoXZY

## Hackable. Modifiable. Customizable.

### TECHNICAL SPECIFICATIONS

<b>SOFTWARE INTERFACE</b>	<b>Milling</b> <ul style="list-style-type: none"> <li>Full 3D G-Code Rendering with Customizable Visualizations</li> <li>Complete G-Code Text Editor and Previewer</li> </ul>		<b>Laser Engraving</b> <ul style="list-style-type: none"> <li>Photo-Quality Laser Interface with Preview and Full Display</li> <li>Positioning, Alignment, Cutting, Etching, and Outlining Toolset</li> </ul>		<b>3D Printing</b> <ul style="list-style-type: none"> <li>Full 3D CAD Model Rendering</li> <li>Full Toolbar for Scaling and Cut-Away Viewing Features</li> <li>Multi Extruder Support</li> <li>Multiple Embedded Slicer Program</li> </ul>	
	<b>Electronic Resolution</b> <ul style="list-style-type: none"> <li>6 microns</li> </ul>		<b>Travel Accuracy</b> <ul style="list-style-type: none"> <li>w/in 0.00015% over X, Y, and Z</li> </ul>		<b>Max. Weight Capacity</b> <ul style="list-style-type: none"> <li>40 lb.</li> </ul>	
<b>PERFORMANCE</b>	<b>Circuit Cooling</b> <ul style="list-style-type: none"> <li>80 CFM</li> </ul>					
	<b>MECHANICAL</b>					
<b>DIMENSIONS</b>	<b>Ball Screw Diameters</b> <ul style="list-style-type: none"> <li>X and Y: 16mm (.63 in)</li> <li>Z: 20mm (.78 in)</li> </ul>		<b>X, Y, Z Motors</b> <ul style="list-style-type: none"> <li>Nema 23</li> </ul>		<b>Filament Drive Motor</b> <ul style="list-style-type: none"> <li>Nema 17</li> </ul>	
	<b>Frame</b> <ul style="list-style-type: none"> <li>388 x 339 x 357 mm</li> <li>15.3 x 13.35 x 14.06 in</li> </ul>		<b>3D Printing Platform</b> <ul style="list-style-type: none"> <li>234.67 x 239.98 mm</li> <li>9.24 x 9.45 in</li> </ul>		<b>Milling Platform</b> <ul style="list-style-type: none"> <li>234.67 x 239.98 mm</li> <li>10.43 x 9.84 in</li> </ul>	
<b>ELECTRONICS</b>	<b>Mounting Volume for Milling</b> <ul style="list-style-type: none"> <li>203.2 x 282.56 x 260.35 mm</li> <li>8 x 11.13 x 10.25 in</li> </ul>		<b>Build Volume (Working Envelope)</b> <ul style="list-style-type: none"> <li>165 x 165 x 165 mm</li> <li>6.5 x 6.5 x 6.5 in</li> </ul>		<b>Machine Weight</b> <ul style="list-style-type: none"> <li>40-45 lb.</li> </ul>	
	<b>Processor</b> <ul style="list-style-type: none"> <li>Mega 2560</li> </ul>		<b>Style</b> <ul style="list-style-type: none"> <li>Modular</li> </ul>		<b>Drivers</b> <ul style="list-style-type: none"> <li>Replaceable A4988</li> </ul>	
<b>COMBINATION E-STOP POWER STATION</b>	<b>Power Output</b> <ul style="list-style-type: none"> <li>19 Volts 200 Watts</li> </ul>		<b>Power Input</b> <ul style="list-style-type: none"> <li>120 Volts 2 Amps</li> <li>220-240V (International option)</li> </ul>		<b>Body</b> <ul style="list-style-type: none"> <li>Stainless Steel</li> </ul>	
	<b>Indicators</b> <ul style="list-style-type: none"> <li>Emerald Green Indicator Light</li> </ul>		<b>Power Switch Regulated Outlets</b> <ul style="list-style-type: none"> <li>120 Volts</li> <li>Duplex</li> </ul>		<b>Power Station Dimensions</b> <ul style="list-style-type: none"> <li>244.48 mm x 107.95 x 63.5 mm</li> <li>9.63 x 4.25 x 2.5 in</li> </ul>	
<b>3D PRINTING HEAD</b>	<b>Nozzle Diameter</b> <ul style="list-style-type: none"> <li>0.4 mm</li> </ul>		<b>Filament Diameter</b> <ul style="list-style-type: none"> <li>1.75 mm</li> </ul>		<b>File Types</b> <ul style="list-style-type: none"> <li>.STL</li> <li>.OBJ</li> </ul>	
	<b>Heater</b> <ul style="list-style-type: none"> <li>40 Watts Variable</li> </ul>		<b>Cooling</b> <ul style="list-style-type: none"> <li>30 CFM</li> </ul>		<b>Default Layer Height</b> <ul style="list-style-type: none"> <li>0.1-0.2 mm</li> <li>0.004-0.008 in</li> </ul>	
<b>CNC MILLING HEAD</b>	<b>Dimensions</b> <ul style="list-style-type: none"> <li>Weight: 1 lb.</li> <li>Length: 165.1 mm (6.5 in)</li> <li>Diameter: 65.75 mm (2.59 in)</li> </ul>		<b>Filament Accepted</b> <ul style="list-style-type: none"> <li>ABS</li> <li>PLA</li> </ul>			
	<b>Horsepower</b> <ul style="list-style-type: none"> <li>1 ¼</li> </ul>		<b>RPM</b> <ul style="list-style-type: none"> <li>Variable 10,000-30,000</li> </ul>		<b>Materials</b> <ul style="list-style-type: none"> <li>Plastics: ABS, Acetal, Acrylic, PVC...</li> <li>Metals: Steel, Aluminum, Brass, Bronze, Silver...</li> <li>Woods: Oak, Maple, Hickory, Walnut...</li> <li>And many more!</li> </ul>	
<b>LASER ENGRAVING HEAD</b>	<b>Collet</b> <ul style="list-style-type: none"> <li>6.35 mm (¼ inch)</li> <li>Accepts adapters</li> </ul>		<b>Power</b> <ul style="list-style-type: none"> <li>938 Watts</li> <li>6.5 Amps</li> <li>120 Volts</li> </ul>		<b>Dimensions</b> <ul style="list-style-type: none"> <li>Weight: 3.9 lb</li> <li>Length: 200.15 mm (7.88 in)</li> <li>Shaft Diameter: 65.75 mm (2.59 in)</li> </ul>	
	<b>Watts</b> <ul style="list-style-type: none"> <li>2000 mW</li> </ul>		<b>Spectrum</b> <ul style="list-style-type: none"> <li>445 Nanometer</li> </ul>		<b>Materials</b> <ul style="list-style-type: none"> <li>Anodized Aluminum</li> <li>Hardwoods</li> <li>Leather</li> <li>Opaque Plastics</li> <li>Foods</li> <li>And many more!</li> </ul>	
<b>Cooling</b> <ul style="list-style-type: none"> <li>30 CFM</li> </ul>		<b>File Types</b> <ul style="list-style-type: none"> <li>.JPEG</li> <li>.PNG</li> <li>.BMP</li> </ul>				

Made In Pittsburgh PA USA