## REVIEW

### Workstations

**Tower Workstations Compared**

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<td>Velocity Micro Pro-Magix HD60 2023 workstation</td>
<td>Windows 11 Pro, Windows 10 Pro</td>
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<td>5.8</td>
<td>24</td>
<td>64GB RAM, 1TB SSD</td>
<td>RTX A4500</td>
<td>20GB</td>
<td>536.25</td>
<td>1TB PCIe SSD</td>
<td>none</td>
<td>28.00</td>
<td>850</td>
<td>165.27</td>
<td>Media and Entertainment: 6.58</td>
<td></td>
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<tr>
<td>HP Z4 G5 workstation</td>
<td>Windows 11 Pro</td>
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<td>3TB</td>
<td>27.00</td>
<td>1045.1</td>
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<tr>
<td>Lenovo P630 Ultra workstation</td>
<td>Windows 10 Pro</td>
<td>Intel Core i9-12900</td>
<td>2.4</td>
<td>16</td>
<td>64GB RAM, 1TB SSD</td>
<td>RTX A2000</td>
<td>12GB</td>
<td>528.49</td>
<td>1TB PCIe SSD</td>
<td>none</td>
<td>8.99</td>
<td>1125</td>
<td>192.56</td>
<td>Media and Entertainment: 3.56</td>
<td></td>
</tr>
<tr>
<td>BOXX APEXX S3 workstation</td>
<td>Windows 11 Pro</td>
<td>Intel Core i7-13900K</td>
<td>3.0</td>
<td>24</td>
<td>64GB RAM, 1TB SSD</td>
<td>RTX A4000</td>
<td>64GB RAM, 1TB SSD</td>
<td>528.24</td>
<td>1TB PCIe SSD</td>
<td>none</td>
<td>8.76</td>
<td>1200</td>
<td>508.86</td>
<td>Media and Entertainment: 508.86</td>
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<tr>
<td>HP Z2 G9 Mini workstation</td>
<td>Windows 11 Pro</td>
<td>Intel Core i7-12700K</td>
<td>3.6</td>
<td>12</td>
<td>64GB RAM, 1TB SSD</td>
<td>RTX A2000</td>
<td>12GB</td>
<td>527.27</td>
<td>1TB PCIe SSD</td>
<td>none</td>
<td>8.76</td>
<td>1200</td>
<td>74.78</td>
<td>Media and Entertainment: 74.78</td>
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</tr>
<tr>
<td>HP Z2 Tower G9 workstation</td>
<td>Windows 11 Pro</td>
<td>Intel Core i7-12700K</td>
<td>3.6</td>
<td>12</td>
<td>64GB RAM, 1TB SSD</td>
<td>RTX A2000</td>
<td>12GB</td>
<td>512.78</td>
<td>1TB PCIe SSD</td>
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<td>15.00</td>
<td>1200</td>
<td>448.21</td>
<td>Media and Entertainment: 448.21</td>
<td></td>
</tr>
</tbody>
</table>

**Price as tested**

- Velocity Micro Pro-Magix HD60 2023 workstation: $4,438.00
- HP Z4 G5 workstation: $6,994.00
- Lenovo P630 Ultra workstation: $2,432.00
- BOXX APEXX S3 workstation: $6,244.00
- HP Z2 G9 Mini workstation: $2,261.00
- HP Z2 Tower G9 workstation: $2,463.00

**Date tested**

- Velocity Micro Pro-Magix HD60 2023 workstation: 7/28/23
- HP Z4 G5 workstation: 7/20/23
- Lenovo P630 Ultra workstation: 4/10/23
- BOXX APEXX S3 workstation: 3/1/23
- HP Z2 G9 Mini workstation: 12/13/22
- HP Z2 Tower G9 workstation: 10/17/22

**CPU clock speed**

- Velocity Micro Pro-Magix HD60 2023 workstation: 5.8 GHz
- HP Z4 G5 workstation: 4.8 GHz
- Lenovo P630 Ultra workstation: 2.4 GHz
- BOXX APEXX S3 workstation: 3.0 GHz
- HP Z2 G9 Mini workstation: 3.6 GHz
- HP Z2 Tower G9 workstation: 3.6 GHz

**CPU cores**

- Velocity Micro Pro-Magix HD60 2023 workstation: 24
- HP Z4 G5 workstation: 24
- Lenovo P630 Ultra workstation: 16
- BOXX APEXX S3 workstation: 24
- HP Z2 G9 Mini workstation: 12
- HP Z2 Tower G9 workstation: 12

**System memory (RAM)**

- Velocity Micro Pro-Magix HD60 2023 workstation: 64GB
- HP Z4 G5 workstation: 64GB
- Lenovo P630 Ultra workstation: 32GB
- BOXX APEXX S3 workstation: 64GB
- HP Z2 G9 Mini workstation: 64GB
- HP Z2 Tower G9 workstation: 64GB

**GPU**

- Velocity Micro Pro-Magix HD60 2023 workstation: RTX A4500
- HP Z4 G5 workstation: RTX A4000
- Lenovo P630 Ultra workstation: RTX A2000
- BOXX APEXX S3 workstation: RTX A4000
- HP Z2 G9 Mini workstation: RTX A2000
- HP Z2 Tower G9 workstation: RTX A4000

**Graphic driver version**

- Velocity Micro Pro-Magix HD60 2023 workstation: 536.25
- HP Z4 G5 workstation: 527.48
- Lenovo P630 Ultra workstation: 528.49
- BOXX APEXX S3 workstation: 528.24
- HP Z2 G9 Mini workstation: 527.27
- HP Z2 Tower G9 workstation: 512.78

**Total drive storage**

- Velocity Micro Pro-Magix HD60 2023 workstation: 1TB PCIe SSD
- HP Z4 G5 workstation: 2TB PCIe SSD
- Lenovo P630 Ultra workstation: 1TB PCIe SSD
- BOXX APEXX S3 workstation: 1TB PCIe SSD
- HP Z2 G9 Mini workstation: 1TB PCIe SSD
- HP Z2 Tower G9 workstation: 1TB PCIe SSD

**Power supply wattage**

- Velocity Micro Pro-Magix HD60 2023 workstation: 850 W
- HP Z4 G5 workstation: 1125 W
- Lenovo P630 Ultra workstation: 300 W
- BOXX APEXX S3 workstation: 750 W
- HP Z2 G9 Mini workstation: 280 W
- HP Z2 Tower G9 workstation: 700 W

**SPECviewperf 2020 V3.1 (higher is better)**

- Velocity Micro Pro-Magix HD60 2023 workstation: 165.27
- HP Z4 G5 workstation: 147.46
- Lenovo P630 Ultra workstation: 80.49
- BOXX APEXX S3 workstation: 145.59
- HP Z2 G9 Mini workstation: 79.43
- HP Z2 Tower G9 workstation: 147.12

**Media and Entertainment**

- Velocity Micro Pro-Magix HD60 2023 workstation: 6.58
- HP Z4 G5 workstation: 5.40
- Lenovo P630 Ultra workstation: 3.82
- BOXX APEXX S3 workstation: 5.24
- HP Z2 G9 Mini workstation: 3.96
- HP Z2 Tower G9 workstation: 4.29

**Product Development**

- Velocity Micro Pro-Magix HD60 2023 workstation: 5.66
- HP Z4 G5 workstation: 5.40
- Lenovo P630 Ultra workstation: 3.82
- BOXX APEXX S3 workstation: 5.24
- HP Z2 G9 Mini workstation: 3.96
- HP Z2 Tower G9 workstation: 4.29

**Life Sciences**

- Velocity Micro Pro-Magix HD60 2023 workstation: 7.07
- HP Z4 G5 workstation: 5.68
- Lenovo P630 Ultra workstation: 3.35
- BOXX APEXX S3 workstation: 6.93
- HP Z2 G9 Mini workstation: 3.52
- HP Z2 Tower G9 workstation: 4.07

**Financial Services**

- Velocity Micro Pro-Magix HD60 2023 workstation: 8.37
- HP Z4 G5 workstation: 6.34
- Lenovo P630 Ultra workstation: 3.45
- BOXX APEXX S3 workstation: 6.92
- HP Z2 G9 Mini workstation: 3.43
- HP Z2 Tower G9 workstation: 3.79

**Energy**

- Velocity Micro Pro-Magix HD60 2023 workstation: 7.27
- HP Z4 G5 workstation: 6.12
- Lenovo P630 Ultra workstation: 3.78
- BOXX APEXX S3 workstation: 7.50
- HP Z2 G9 Mini workstation: 3.76
- HP Z2 Tower G9 workstation: 4.44

**General Operations**

- Velocity Micro Pro-Magix HD60 2023 workstation: 4.32
- HP Z4 G5 workstation: 2.56
- Lenovo P630 Ultra workstation: 3.16
- BOXX APEXX S3 workstation: 4.66
- HP Z2 G9 Mini workstation: 2.80
- HP Z2 Tower G9 workstation: 3.01

**GPU Compute**

- Velocity Micro Pro-Magix HD60 2023 workstation: 6.41
- HP Z4 G5 workstation: 5.16
- Lenovo P630 Ultra workstation: 3.62
- BOXX APEXX S3 workstation: 5.44
- HP Z2 G9 Mini workstation: 3.50
- HP Z2 Tower G9 workstation: 5.66

**Time AutoCAD Render Test (in seconds, lower is better)**

- Velocity Micro Pro-Magix HD60 2023 workstation: 10.30
- HP Z4 G5 workstation: 15.0
- Lenovo P630 Ultra workstation: 22.1
- BOXX APEXX S3 workstation: 14.20
- HP Z2 G9 Mini workstation: 16.5
- HP Z2 Tower G9 workstation: 15.9

Numbers in blue indicate best recorded results. Numbers in red indicate worst recorded results.