WD VelociRaptor Workstation Hard Drives

WD VelociRaptor drives offer an unmatched combination of high performance and high reliability, perfect for workstations, high-end video and photo editing, low-end servers and performance enthusiasts’ systems. Comes with a 3.5-inch mounting frame for easy installation into today’s high-performance systems and chassis.

**INTERFACE**
SATA 6 Gb/s

**WIDTH/HEIGHT**
3.5-inch/1-inch

**ROTATIONAL SPEED**
10,000 RPM

**CAPACITIES**
250 and 500 GB; 1 TB

**MODEL NUMBERS**
WD1000DHTZ
WD5000HHTZ
WD2500HHTZ

*Note: Not all products may be available in all regions of the world.*

### Product Benefits

**Ultra fast**
Designed around a 10,000 RPM spin speed, these SATA 6 Gb/s drives include a 64 MB cache and deliver the ultimate performance for photo and video editing.

**Rock-solid reliability**
With 1.4 million hours MTBF, these drives have the highest available reliability rating on a high capacity SATA drive.

**High capacity**
State-of-the-art technology delivers a balance of high performance and high capacity perfect for data-intensive workloads that require large amounts of storage such as video editing, 3D rendering and scientific modeling.

**Ultra-cool operation**
Consumes less idle power and uses similar active power as the previous generation WD VelociRaptor, while offering double the capacity and higher performance.

**Advanced Format (AF)**
Technology adopted by WD and other drive manufacturers as one of multiple ways to continue growing hard drive capacities. AF is a more efficient media format that enables increased area densities.

**IcePack™ mounting frame**
The 2.5-inch WD VelociRaptor is enclosed in a backplane-ready 3.5-inch enterprise-class mounting frame with a built-in heat sink that keeps this powerful little drive extra cool when installed in high-performance desktop chassis.

**Rotary Acceleration Feed Forward (RAFF™)**
Optimizes operation and performance when the drives are used in vibration-prone, multi-drive chassis.

**NoTouch™ ramp load technology**
The recording head never touches the disk media ensuring significantly less wear to the recording head and media as well as better drive protection in transit.

**Environmentally conscious**
In addition to being ROHS compliant, this generation of WD VelociRaptor is also a halogen free design.

**Pre-emptive Wear Leveling (PWL)**
Ensures reliability for applications that perform a high incidence of read/write operations at the same physical location on the disk.

**5-year limited warranty**

### Applications

High-performance computing, 3D rendering, digital content creation and editing, scientific computing and image management.
## WD VelociRaptor Specifications

**Model number**
- WD1000DHTZ
- WD5000HHTZ
- WD2500HHTZ

**Interface**
- SATA 6 Gb/s

**Formatted capacity**
- 1 TB
- 500 GB
- 250 GB

**User sectors per drive**
- 1,953,525,168
- 976,773,168
- 488,397,168

**Advanced Format (AF)**
- Yes

**SATA latching connector**
- Yes

**Form factor**
- 3.5-inch

**RoHS compliant**
- Yes

### Performance

<table>
<thead>
<tr>
<th></th>
<th>1 TB</th>
<th>500 GB</th>
<th>250 GB</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Data transfer rate (max)</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Buffer to host</td>
<td>6 Gb/s</td>
<td>6 Gb/s</td>
<td>6 Gb/s</td>
</tr>
<tr>
<td>Host to/from drive</td>
<td>200 MB/s</td>
<td>200 MB/s</td>
<td>200 MB/s</td>
</tr>
</tbody>
</table>

**Cache (MB)**
- 64

**Rotational speed (RPM)**
- 10,000

**Average drive ready time (sec)**
- 8

**Power Management**

<table>
<thead>
<tr>
<th></th>
<th>12VDC (A, max)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total</td>
<td>1.8</td>
</tr>
<tr>
<td>Random Read/Write</td>
<td>5.1</td>
</tr>
<tr>
<td>Sequential Read/Write</td>
<td>5.8</td>
</tr>
<tr>
<td>Idle</td>
<td>4.2</td>
</tr>
<tr>
<td>Standby and Sleep</td>
<td>1.1</td>
</tr>
</tbody>
</table>

**Environmental Specifications**

<table>
<thead>
<tr>
<th></th>
<th>1 TB</th>
<th>500 GB</th>
<th>250 GB</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Temperature (°C)</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Operating</td>
<td>5 to 55</td>
<td>5 to 55</td>
<td>5 to 55</td>
</tr>
<tr>
<td>Non-operating</td>
<td>-40 to 70</td>
<td>-40 to 70</td>
<td>-40 to 70</td>
</tr>
<tr>
<td><strong>Shock (Gs)</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Operating (2 ms, read/write)</td>
<td>30</td>
<td>65</td>
<td>65</td>
</tr>
<tr>
<td>Operating (2 ms, read)</td>
<td>300</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Non-operating (2 ms)</td>
<td>300</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Average acoustics (SPL)</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Idle mode</td>
<td>30</td>
<td>30</td>
<td>30</td>
</tr>
<tr>
<td>Performance seek mode</td>
<td>37</td>
<td>37</td>
<td>37</td>
</tr>
</tbody>
</table>

### Physical Dimensions

<table>
<thead>
<tr>
<th></th>
<th>1 TB</th>
<th>500 GB</th>
<th>250 GB</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Height (in./mm, max)</strong></td>
<td>1.028/26.1</td>
<td>1.028/26.1</td>
<td>1.028/26.1</td>
</tr>
<tr>
<td><strong>Length (in./mm, max)</strong></td>
<td>5.78/147</td>
<td>5.78/147</td>
<td>5.78/147</td>
</tr>
<tr>
<td><strong>Width (in./mm, ± .01 in.)</strong></td>
<td>4/101.6</td>
<td>4/101.6</td>
<td>4/101.6</td>
</tr>
<tr>
<td><strong>Weight (lb./kg, ± 10%)</strong></td>
<td>1.10/0.50</td>
<td>1.10/0.50</td>
<td>1.10/0.50</td>
</tr>
</tbody>
</table>

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1. As used for storage capacity, one megabyte (MB) = one million bytes, one gigabyte (GB) = one billion bytes, and one terabyte (TB) = one trillion bytes. Total accessible capacity varies depending on operating environment. As used for buffer or cache, one megabyte (MB) = 1,048,576 bytes. As used for transfer rate or interface, megabyte per second (MB/s) = one million bytes per second, and gigabit per second (Gb/s) = one billion bits per second. Effective maximum SATA 3 Gb/s transfer rate calculated according to the Serial ATA specification published by the SATA-IO organization as of the date of this specification sheet. Visit www.sata-io.org for details.

2. WD hard drive products manufactured and sold worldwide after June 1, 2006, meet or exceed Restriction of Hazardous Substances (RoHS) compliance requirements as mandated by the RoHS Directive 2011/65/EU.

3. Controlled unload at ambient condition

4. The term of the limited warranty may vary by region. Visit support.wdc.com/warranty for details.

5. No non-recoverable errors during operating tests or after non-operating tests.

6. Sound power level.