Performance-optimized high-capacity storage for high-intensity applications.

Advanced drive technology that delivers consistent high performance in a multitude of applications, and with up to ten times the workload capability of desktop drives, the WD Re drive is the workhorse of WD's datacenter portfolio. The WD Re drive is perfect for high-availability storage arrays that demand a robust storage device, and this drive's high performance, capacity, and reliability make it ideal for data warehousing/mining and high-performance computing. The WD Re uses a SATA interface to provide maximum flexibility and compatibility.

**INTERFACE**
- SATA 6 Gb/s

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

**ROTATIONAL SPEED**
- 7200 RPM

**CAPACITIES**
- 1TB to 4TB

**MODEL NUMBERS**
- WD4000FYYZ
- WD3000FYYZ
- WD2000FYYZ
- WD2004FBYZ
- WD1004FBYZ

**Product Benefits**

**High capacity nearline drive**
Multiple capacities to suit even the most demanding datacenter, enterprise server, or cloud storage needs.

**Designed for high-intensity applications**
Designed to handle workloads up to 550TB per year – among the highest workload capability of any 3.5-inch hard drive – delivering both performance and reliability to any datacenter environment.

**StableTrac™**
(excluding FBYZ models)
The motor shaft is secured at both ends to reduce system-induced vibration and stabilize platters for accurate tracking during read and write operations.

**Vibration Protection**
Enhanced RAFF™ technology includes sophisticated electronics to monitor the drive and correct both linear and rotational vibration in real time. The result is a significant performance improvement in high vibration environments over desktop drives.

**Dual actuator technology**
A head positioning system with two actuators that improves positional accuracy over the data track(s). The primary actuator provides coarse displacement using conventional electromagnetic actuator principles. The secondary actuator uses piezoelectric motion to fine tune the head positioning to a higher degree of accuracy.

**Multi-axis shock sensor**
Automatically detects the subtlest shock events and compensates to protect the data.

**RAID-specific, time-limited error recovery (TLER)**
Reduces drive fallout caused by the extended hard drive error-recovery processes common to desktop drives.

**Designed for quality and reliability**
With 2.0 million hours MTBF, these drives ensure one of the highest level reliability ratings for high-capacity enterprise storage needs.

**Thermal extended burn-in test**
Each drive is put through extended burn-in testing with thermal cycling to ensure reliable operation.

**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.

**Dynamic fly height technology**
Each read-write head's fly height is adjusted in real time for optimum reliability.

**Applications**

Online Analytical Processing (OLAP), data warehousing/mining, high-performance computing, high-end NAS/SAN and surveillance systems, and high-availability cloud storage arrays.

**The WD Advantage**

WD puts datacenter products through extensive Functional Integrity Testing (F.I.T.) prior to any product launch. This testing ensures our products consistently meet the high quality and reliability standards of the WD brand. Following a FIT test the Enterprise System Group (ESG) testing validates interoperability with HBAs, operating systems, and drivers, to ensure an even greater level of quality, reliability, and peace of mind.

WD also has a detailed Knowledge Base with helpful articles and software utilities. Our customer support lines have long operational hours to ensure you get the help you need when you need it. Our toll-free customer support lines are here to help or you can access our WD Support site for additional details.
<table>
<thead>
<tr>
<th>Specifications</th>
<th>4TB</th>
<th>3TB</th>
<th>2TB</th>
<th>2TB</th>
<th>1TB</th>
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</thead>
<tbody>
<tr>
<td>512 native model number</td>
<td>WD4000FYYZ</td>
<td>WD3000FYYZ</td>
<td>WD2000FYYZ</td>
<td>WD2000FYYZ</td>
<td>WD1000FYYZ</td>
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<tr>
<td>512 emulation model number</td>
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<tr>
<td>Formatted capacity</td>
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<td>3TB</td>
<td>2TB</td>
<td>2TB</td>
<td>1TB</td>
</tr>
<tr>
<td>512n/512e user sectors per drive</td>
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<td>5,860,333,168</td>
<td>3,907,029,168</td>
<td>3,907,029,168</td>
<td>1,953,525,168</td>
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<tr>
<td>4Kn user sectors per drive</td>
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</tr>
<tr>
<td>Native command queueing</td>
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<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
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<td>Form factor</td>
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<td>3.5-inch</td>
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<td>RoHs compliant</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
</tbody>
</table>

**Performance**

- **Data transfer rate (max)**
  - Buffer to host Host to/from drive (sustained)
    - 6 GB/s
    - 171 MB/s
    - 168 MB/s
  - 6 GB/s
  - 164 MB/s
  - 200 MB/s
  - 184 MB/s

- **Cache (MB)**
  - 64
  - 64
  - 64
  - 128
  - 128

- **Rotational speed (RPM)**
  - 7200
  - 7200
  - 7200
  - 7200

- **Reliability/Data Integrity**
  - **Load/unload cycles**
    - <1 in 10^15
  - **Non-recoverable read errors per bits read**
    - <1 in 10^15
  - **MTBF (hours)**
    - 2,000,000^1
    - 2,000,000
  - **AFR (%)**
    - 0.44^2
    - 0.44
  - **Limited warranty (years)**
    - 5

**Power Management**

- **Average power requirements (W)**
  - Sequential read
    - 9.6
  - Sequential write
    - 9.5
  - Random read/write
    - 11.9
  - Idle
    - 8.1

**Environmental Specifications**

- **Temperature (°C)**
  - Operating
    - 5 to 55
  - Non-operating
    - -40 to 70
- **Shock (Gs)**
  - Operating (2 ms, read/write)
    - 30
  - Operating (2 ms, read)
    - 65
  - Non-operating (2 ms)
    - 300
- **Acoustics (dBA)**
  - Idle
    - 31
  - Seek (average)
    - 34

**Physical Dimensions**

- **Height (in./mm, max)**
  - 1.028/26.1
  - 1.028/26.1
  - 1.028/26.1
  - 1.028/26.1
  - 1.028/26.1
- **Length (in./mm, max)**
  - 5.787/147
  - 5.787/147
  - 5.787/147
  - 5.787/147
  - 5.787/147
- **Width (in./mm, ± 0.1 in.)**
  - 4/101.6
  - 4/101.6
  - 4/101.6
  - 4/101.6
  - 4/101.6
- **Weight (lb/kg, ± 10%)**
  - 1.66/0.75
  - 1.66/0.75
  - 1.55/0.70
  - 1.41/0.64
  - 1.41/0.64

1. Not all products may be available in all regions of the world.
2. 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.
3. As used for buffer or cache, one megabyte (MB) = 1,048,576 bytes. As used for transfer rate or rotation, megabytes per second (MB/s) = one million bytes per second, and gigabytes per second (GB/s) = one billion bytes per second. Effective maximum SATA 6 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.
4. Product MTBF and AFR specifications are based upon a 40°C base casting temperature and typical system workload of 650TB/year. Product is designed for workloads up to 550TB/year.
5. No non-recoverable errors during operating tests or after non-operating tests.
6. All non-recoverable errors during operating tests or other non-operating tests.
7. Sound power level.