WD Gold™ Enterprise Class SATA HDD

Your Data Is Gold
Customize your business’s storage mix to fit your specific needs with a full portfolio of enterprise-class WD Gold™ HDDs in capacities of 1TB to 22TB, with OptiNAND™ technology in 20TB and 22TB. These highly reliable solutions for demanding storage environments provide up to 2.5M hours MTBF, vibration protection technology, and a low power draw thanks to HelioSeal® technology (for 12TB and above). Specifically designed for use in enterprise-class data centers and storage systems, WD Gold SATA HDDs deliver the world-class performance you expect from Western Digital® hard drives.

More Flexibility, More Freedom
WD Gold™ lets you build out your storage your way with a full portfolio of SATA HDDs from 1TB to 22TB, engineered for heavy application workloads and designed to handle workloads up to 550TB per year.

Enhanced Reliability
With up to 2.5M hours MTBF, WD Gold™ hard drives deliver enhanced levels of dependability and durability.

Vibration Protection
WD Gold™ drives have sophisticated monitoring electronics that help correct linear and rotational vibrations in real time using enhanced vibration protection technology for improved performance in high-vibration environments.

Plays Well with Others
Specifically designed for use in enterprise-grade storage systems and data centers, WD Gold™ HDDs are broadly compatible with major enterprise operating systems.

Scale Your Business
WD Gold™ drives are available in an unsurpassed, industry-leading 22TB CMR capacity utilizing the OptiNAND™ technology’s capacity-enabling feature.

Helps Protect Your Data
The innovative ArmorCache™ feature (22TB only) provides enterprise power loss protection of your data in write-cache enabled (WCE) mode while increasing performance in write-cache disabled (WCD) mode.

Product Highlights
- Optimize your storage for your business with a full portfolio of enterprise-class WD Gold™ HDDs in capacities up to 22TB
- Quality and reliability with up to 2.5M hours MTBF to help you store your data with confidence
- Specifically designed for use in enterprise-class storage systems and data centers
- Improve performance with our vibration protection technology
- HelioSeal® technology delivers high capacities with low power draw (12TB & up)
- Get peace of mind with a 5-year limited warranty
## Specifications

<table>
<thead>
<tr>
<th>Model Number</th>
<th>22TB¹</th>
<th>20TB¹</th>
<th>20TB¹</th>
<th>18TB¹</th>
<th>16TB¹</th>
<th>14TB¹</th>
<th>12TB¹</th>
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<tbody>
<tr>
<td>WD221KRYZ</td>
<td>WD201KRYZ</td>
<td>WD181KRYZ</td>
<td>WD161KRYZ</td>
<td>WD141KRYZ</td>
<td>WD121KRYZ</td>
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<td>3.5-inch</td>
<td>3.5-inch</td>
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<td>3.5-inch</td>
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<td>20TB</td>
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<tr>
<td>OptiNAND™ technology</td>
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<td>Yes</td>
<td>No</td>
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<td>Yes</td>
<td>Yes</td>
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<td>Average power requirements (W)</td>
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<td>Operational³</td>
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<td>2,500,000</td>
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<td>Shock (Read/Write)</td>
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<td>50G/50G</td>
<td>50G/50G</td>
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<td>300G</td>
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<td>Idle Mode</td>
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<td>20 dBA</td>
<td>20 dBA</td>
<td>20 dBA</td>
<td>20 dBA</td>
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<td>Height (max)</td>
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<td>26.1mm</td>
<td>26.1mm</td>
<td>26.1mm</td>
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<tr>
<td>Length (max)</td>
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<td>147.0mm</td>
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<td>Width (± .01 in.)</td>
<td>101.6mm</td>
<td>101.6mm</td>
<td>101.6mm</td>
<td>101.6mm</td>
<td>101.6mm</td>
<td>101.6mm</td>
<td>101.6mm</td>
</tr>
<tr>
<td>Weight</td>
<td>1.47 lb (.67 kg) ± 10%</td>
<td>1.52 lb (.69 kg) ± 10%</td>
<td>1.52 lb (.69 kg) ± 10%</td>
<td>1.52 lb (.69 kg) ± 10%</td>
<td>1.52 lb (.69 kg) ± 10%</td>
<td>1.52 lb (.69 kg) ± 10%</td>
<td>1.46 lb (.66 kg) ± 10%</td>
</tr>
</tbody>
</table>
## Specifications

### WD Gold™ SATA HDD

**Model Number**
- WD102KRYZ
- WD0804FRYZ
- WD6003FRYZ
- WD4003FRYZ
- WD2005FBYZ
- WD1005FBYZ

**Form factor**
- 3.5-inch

**Interface**
- SATA 6 Gb/s

**Formatted capacity**
- 10TB
- 8TB
- 6TB
- 4TB
- 2TB
- 1TB

**OptiNAND™ technology**
- No
- Yes

**RoHS compliant**
- Yes
- No

<table>
<thead>
<tr>
<th><strong>Performance</strong></th>
<th>10TB</th>
<th>8TB</th>
<th>6TB</th>
<th>4TB</th>
<th>2TB</th>
<th>1TB</th>
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<tbody>
<tr>
<td>RPM</td>
<td>7200</td>
<td>7200</td>
<td>7200</td>
<td>7200</td>
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<tr>
<td>Cache</td>
<td>256MB</td>
<td>256MB</td>
<td>256MB</td>
<td>256MB</td>
<td>128MB</td>
<td>128MB</td>
</tr>
</tbody>
</table>

### Power Management

**Average power requirements (W)**
- Operating: 9.2W / 8.8W
- Idle: 8.0W / 7.4W

**Power efficiency index (W/TB, idle)**
- 0.80 / 0.90

### Reliability

**MTBF (hours, projected)**
- 2,000,000

**Annualized Failure Rate (AFR, %)**
- 0.44 / 0.44

**Limited warranty**
- 5 years

### Environmental

**Operating temperature**
- 5°C to 60°C

**Non-operating temperature**
- -40°C to 70°C

**Shock (Read/Write)**
- Operating (half-sine wave, 2ms)
  - 70G/50G
- Non-operating (half-sine wave, 2ms)
  - 250G

**Acoustics (average)**
- Idle Mode: 34 dBA
- Seek Mode: 38 dBA

### Physical Dimensions

**Height (max)**
- 26.1mm

**Length (max)**
- 147.0mm

**Width (± .01 in.)**
- 101.6mm

**Weight**
- 1.65 lb. (0.75 kg)

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1. **1MB = 1 million bytes, 1GB = 1 billion bytes, and 1TB = 1 trillion bytes. Actual user capacity may be less depending on operating environment.**
2. **Projected values for model number WD221KRYZ and WD202KRYZ. Final MTBF and AFR specifications will be based on a sample population and are estimated by statistical measurements and acceleration algorithms under typical operating conditions, typical workload and 40°C device-reported temperature. Derating of MTBF and AFR will occur above these parameters, up to 550TB/year and 60°C (device reported temperature). MTBF and AFR ratings do not predict an individual drive’s reliability and do not constitute a warranty.**
3. **Workload Rate is defined as the amount of user data transferred to or from the hard drive. Workload Rate is annualized (TB transferred X (8760 / recorded power-on hours)). Workload Rate will vary depending on your hardware and software components and configurations.**
4. **This drive is in compliance with the European Union Directive 2011/65/EU and Directive (EU) 2015/863 on the restriction of the use of certain hazardous substances (RoHS) in electrical and electronic equipment.**
5. **1 MB/s = 1 million bytes per second. Based on internal testing; performance may vary depending upon host device, usage conditions, drive capacity, logical block address (LBA), and other factors.**
6. **Portion of buffer capacity used for drive firmware.**
7. **Random RW 50/50 8KB QD=1 @40 IOPS.**
8. **5°C ambient temperature, 60°C device reported temperature.**