



## Product Highlights

- Take on tough workloads; up to 10 times the typical desktop rates
- Enhanced reliability with up to 2.5M hours MTBF
- Specifically designed for use in enterprise-class storage systems and data centers
- Energy-Assisted Magnetic Recording (EAMR) and Triple State Actuator (TSA) (in 16TB capacities and above)

## WD Gold™ HDD

### Conquering Tough Workloads With Enterprise-class WD Gold™ HDDs

Available in 1TB to 18TB capacities, this highly reliable solution for demanding storage environments provides 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 storage systems and data centers, the WD Gold Enterprise Class SATA HDD delivers the world-class performance you expect from Western Digital® hard drives.

#### Beyond Expectations

WD Gold™ hard drives are performance-optimized for heavy application workloads, whether you need 1TB or 18TB. The WD Gold HDD's wide capacity range solves for the most demanding storage environments.

#### Enhanced Reliability

With up to 2.5M hours MTBF, WD Gold™ hard drives deliver enhanced levels of dependability and durability. Built for yearly operation (24x7x365) within the most demanding storage environments.

#### A World-Class Performer

Delivering excellent service to any storage environment, WD Gold™ hard drives are designed to handle workloads up to 550TB per year – among the highest of any 3.5-inch hard drive.

#### Vibration Protection

WD Gold™ has 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.

#### Play Well with Others

Broadly compatible with most PC and major enterprise operating systems. Specifically designed for use in enterprise-class storage systems and data centers.

#### Leading the Way

Energy-Assisted Magnetic Recording technology (EAMR) enables higher media precision and increases areal density. The Triple State Actuator (TSA) enhances the accuracy of head-positioning and delivers better performance and data integrity to also increase areal density. Both technologies are available only in 16TB capacities and above.

#### 5-Year Limited Warranty

Every WD Gold™ HDD comes with a 5-year limited warranty, so you can be confident in your storage.

# WD Gold™ Enterprise Class SATA HDD

PRODUCT BRIEF

ENTERPRISE CLASS SATA HDD

## Specifications

	18TB	16TB	14TB	12TB	10TB	8TB	6TB	4TB	2TB	1TB
Model Number	WD181KRYZ	WD161KRYZ	WD141KRYZ	WD121KRYZ	WD102KRYZ	WD8004FRYZ	WD6003FRYZ	WD4003FRYZ	WD2005FBYZ	WD1005FBYZ
Form Factor	3.5-inch	3.5-inch	3.5-inch	3.5-inch	3.5-inch	3.5-inch	3.5-inch	3.5-inch	3.5-inch	3.5-inch
Interface	SATA 6 Gb/s	SATA 6 Gb/s	SATA 6 Gb/s	SATA 6 Gb/s	SATA 6 Gb/s	SATA 6 Gb/s	SATA 6 Gb/s	SATA 6 Gb/s	SATA 6 Gb/s	SATA 6 Gb/s
512n / 512e user sectors per drive <sup>8</sup>	512e	512e	512e	512e	512e	512e	512e	512e	512n	512n
Formatted Capacity <sup>1</sup>	18TB	16TB	14TB	12TB	10TB	8TB	6TB	4TB	2TB	1TB
RoHS compliant <sup>2</sup>	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

## Performance

Data Transfer Rate <sup>3</sup> (max sustained)	269MB/s	262MB/s	267MB/s	255MB/s	262MB/s	255MB/s	255MB/s	255MB/s	200MB/s	184MB/s
Performance Class	7200 RPM Class	7200 RPM Class	7200 RPM Class	7200 RPM Class	7200 RPM Class	7200 RPM Class	7200 RPM Class	7200 RPM Class	7200 RPM Class	7200 RPM Class
Cache	512MB	512MB	512MB	256MB	256MB	256MB	256MB	256MB	128MB	128MB

## Power Management

Average power requirements (W)										
Operational	6.5W	6.5W	6.0W	6.9W	9.2W	8.8W	7.0W	7.0W	8.1W	8.1W
Idle	5.6W	5.6W	5.5W	5.0W	8.0W	7.4W	5.9W	5.9W	5.9W	5.9W
Power efficiency index (W/TB, idle)	0.31	0.35	0.4	0.4	0.8	0.9	1.0	1.5	3.0	5.9

## Reliability

MTBF (hours, projected)	2,500,000	2,500,000	2,500,000	2,500,000	2,000,000	2,000,000	2,000,000	2,000,000	2,000,000	2,000,000
Annualized Failure Rate (AFR, %)	0.35	0.35	0.35	0.35	0.44	0.44	0.44	0.44	0.44	0.44
Limited Warranty	5 years	5 years	5 years	5 years	5 years	5 years	5 years	5 years	5 years	5 years

## Environmental

Operating Temperature	5° to 60°C	5° to 60°C	5° C to 60° C	5° C to 60° C	5° C to 60° C	5° C to 60° C	5° C to 60° C	5° C to 60° C	5° C to 60° C	5° C to 60° C
Non-Operating Temperature	-40° to 70°C	-40° to 70°C	-40°C to 70°C	-40°C to 70°C	-40°C to 70°C	-40°C to 70°C	-40°C to 70°C	-40°C to 70°C	-40°C to 70°C	-40°C to 70°C
Shock (Read/Write) Operating (half-sine wave, 2ms)	50G/50G	50G/50G	70G/70G	70G/70G	70G/50G	70G/70G	70G/70G	70G/70G	65G/65G	65G/65G
Non-operating (half-sine wave, 2ms)	250G	250G	300G	300G	250G	300G	300G	300G	300G	300G
Acoustics (average)										
Idle Mode	20 dBA	20 dBA	20 dBA	20 dBA	34 dBA	29 dBA	29 dBA	29 dBA	25 dBA	25 dBA
Seek Mode	36 dBA	36 dBA	36 dBA	36 dBA	38 dBA	36 dBA	36 dBA	36 dBA	28 dBA	28 dBA

## Physical Dimensions

Height (max)	26.1mm	26.1mm	26.1 mm	26.1 mm	26.1 mm	26.1 mm	26.1 mm	26.1 mm	26.1 mm	26.1 mm
Length (max)	147.0 mm	147.0 mm	147.0 mm	147.0 mm	147.0 mm	147.0 mm	147.0 mm	147.0 mm	147.0 mm	147.0 mm
Width (± .01 in.)	101.6 mm	101.6 mm	101.6 mm	101.6 mm	101.6 mm	101.6 mm	101.6 mm	101.6 mm	101.6 mm	101.6 mm
Weight	1.52 lb (.69 kg) +/- 10%	1.52 lb (.69 kg) +/- 10%	1.52 lb (.69 kg) ± 10%	1.46 lb (.66 kg) ± 10%	1.65 lb (.75 kg) ± 10%	1.58 lb (.715 kg) ± 10%	1.58 lb (.715 kg) ± 10%	1.58 lb (.715 kg) ± 10%	1.41 lb (.64 kg) ± 10%	1.41 lb (.64 kg) ± 10%

<sup>1</sup> As used for storage capacity, 1GB = 1 billion bytes and 1TB = one trillion bytes. Actual user capacity may be less depending on operating environment.

<sup>2</sup> Western Digital hard drive products manufactured and sold worldwide after June 8, 2011, meet or exceed Restriction of Hazardous Substances (RoHS) compliance requirements as mandated by the RoHS Directive 2011/65/EU.

<sup>3</sup> Data Transfer Rate: MB/s is 1,000,000 bytes; 1MiB = 1,048,576  
Cache Buffer: Portion of buffer capacity used for drive firmware.  
Operational Power: Random RW 50/50 8KB QD=1

Idle Power: Based on use of Idle\_A

Projected values. 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, workload 220TB/year and temperature 40C. Derating of MTBF and AFR will occur above these parameters, up to 550TB writes per year and 60C ambient (65C device temp). MTBF and AFR ratings do not predict an individual drive's reliability and do not constitute a warranty.

<sup>8</sup> 512e: Advanced Format drive with 512-byte logical sectors and 4K (4096-byte) physical sectors. 512n: Native 512-byte logical and physical sectors.

## Western Digital

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