



WD Gold™

Enterprise-class Hard Drives

Drive to endure.

WD Gold hard drives feature up to ten times the workload rating¹ of desktop drives and employ advanced technologies for enterprise-class reliability, power efficiency and performance. Designed from the ground up to be an ultra-robust storage device, WD Gold drives are the perfect solution for your business.



INTERFACE

SATA 6 Gb/s

WIDTH/HEIGHT

3.5-inch/1-inch

PERFORMANCE CLASS

7200 RPM Class

CAPACITIES

1TB to 12TB

MODEL NUMBERS

WD121KRYZ WD2005FBYZ
 WD101KRYZ WD1005FBYZ
 WD8003FRYZ
 WD6002FRYZ
 WD4002FYYZ

Product Benefits

High workload rating

Delivering dependable performance to any storage environment, WD Gold™ hard drives are designed with a workload rating up to 550TB per year², among the highest of any 3.5-inch hard drive.

Enterprise-class storage to rely on

With up to 2.5 million hours MTBF, WD Gold hard drives deliver reliability and durability, are built for yearly operation (24x7x365) within the most demanding storage environments, and are backed with a 5 year limited warranty.

HelioSeal™ Technology

Featured in over 15 million Western Digital hard drives shipped³, HelioSeal™ technology allows for higher capacities and less turbulence on large storage arrays.

And now on its 4th generation design, HelioSeal™ technology is field-tested and proven to deliver high capacity, reliability, and power efficiency you can trust.

Vibration protection

Enhanced RAFF™ technology uses sophisticated electronics to monitor the drive and correct linear and rotational vibrations in real time for improved performance versus WD's desktop drives in high-vibration environments.

RAID-specific, time-limited error recovery (TLER)

Reduces drive fallout caused by the extended hard drive error-recovery processes common to desktop drives.

Dynamic fly height technology

Each read-write head's fly height is adjusted in real time to ensure consistent performance for reduced errors and optimized reliability.

Dual-stage actuator technology

WD Gold drives feature a dual-stage actuator head positioning system for a high degree of accuracy. The primary stage provides course displacement while the secondary stage uses piezoelectric motion to fine tune the head positioning to a higher degree of precision.

Compatibility testing

All WD Gold hard drives are extensively tested across a variety of popular OEM storage systems, SATA controllers, and host bus adapters to ensure ease

of integration for a plug and play solution.

7200RPM-Class

This 7200RPM-class hard drive delivers the fastest performance with the highest workload rating of any HDD in WD's lineup. Ensure you have the most capable hard drive regardless of the application with WD Gold.

Applications

Enterprise servers and storage systems; mission-critical applications needing reliable, robust high capacity storage; high-end surveillance and industrial applications; long product life cycle and managed PCN.

The WD Advantage

WD puts 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.



Specifications	12TB	10TB	8TB	6TB	4TB	2TB	1TB
512 emulation model number ³	WD121KRYZ	WD101KRYZ	WD8003FRYZ	WD6002FRYZ			
512 native model number ³					WD4002FYYZ	WD2005FBYZ	WD1005FBYZ
Logical/Physical bytes per sector	512 / 4096	512 / 4096	512 / 4096	512 / 4096	512 / 512	512 / 512	512 / 512
Formatted capacity ⁴	12TB	10TB	8TB	6TB	4TB	2TB	1TB
512n/512e user sectors per drive	23,437,770,752	19,532,873,728	15,628,053,168	11,721,045,168	7,814,037,168	3,907,029,168	1,953,525,168
Interface ⁴	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
Native Command Queuing	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Form Factor	3.5-inch	3.5-inch	3.5-inch	3.5-inch	3.5-inch	3.5-inch	3.5-inch
RoHS compliant ⁵	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Performance							
Data transfer rate (max) ⁴	6 Gb/s	6 Gb/s	6 Gb/s	6 Gb/s	6 Gb/s	6 Gb/s	6 Gb/s
Buffer to host	255 MB/s	249 MB/s	225 MB/s	226 MB/s	201 MB/s	200 MB/s	184 MB/s
Host to/from drive (sustained)							
Cache (MB)	256	256	256	128	128	128	128
Performance Class	7200 RPM Class	7200 RPM Class	7200 RPM Class	7200 RPM Class	7200 RPM Class	7200 RPM Class	7200 RPM Class
Reliability/Data Integrity							
Load/unload cycles ⁶	600,000	600,000	600,000	600,000	600,000	600,000	600,000
Non-recoverable read errors per bits read	<1 in 10 ¹⁵	<1 in 10 ¹⁵	<1 in 10 ¹⁵	<1 in 10 ¹⁵	<1 in 10 ¹⁵	<1 in 10 ¹⁵	<1 in 10 ¹⁵
MTBF (hours)	2,500,000 ⁷	2,500,000 ⁷	2,500,000 ⁷	2,000,000 ⁷	2,000,000 ⁷	2,000,000 ⁷	2,000,000 ⁷
AFR (%)	0.35 ⁷	0.35 ⁷	0.35 ⁷	0.44 ⁷	0.44 ⁷	0.44 ⁷	0.44 ⁷
Limited warranty (years) ⁸	5	5	5	5	5	5	5
Power Management							
Average power requirements (W)							
Sequential read	7.0	7.1	7.1	9.3	9.0	7.4	7.4
Sequential write	6.8	6.7	6.7	8.9	8.7	7.4	7.4
Random read/write	6.9	6.8	6.8	9.1	8.8	8.1	8.1
Idle	5.0	5.0	5.0	7.1	7.0	5.9	5.9
Environmental Specifications⁹							
Temperature (°C)							
Operating	5 to 60	5 to 60	5 to 60	5 to 60	5 to 60	5 to 60	5 to 60
Non-operating	-40 to 70	-40 to 70	-40 to 70	-40 to 70	-40 to 70	-40 to 70	-40 to 70
Shock (Gs)							
Operating (half-sine wave, 2 ms)	70G 300 (2ms)/150 (11ms)	70G 300 (1ms)/150 (11ms)	70G 300 (1ms)/150 (11ms)	70G 300 (1ms)/150 (11ms)	70G 300 (1ms)/150 (11ms)	65G 300 (2ms)	65G 300 (2ms)
Non-operating (half-sine wave)							
Acoustics (dBA) ¹⁰							
Idle	20	20	20	29	29	25	25
Seek (average)	36	36	36	36	36	28	28
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	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	5.787/147	5.787/147
Width (in./mm, ± .01 in.)	4/101.6	4/101.6	4/101.6	4/101.6	4/101.6	4/101.6	4/101.6
Weight (lb/kg, ± 10%)	1.46/0.66	1.46/0.66	1.46/0.66	1.58/0.715	1.58/0.715	1.41/0.641	1.41/0.641

¹ 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.

² As of April 2017.

³ Not all products may be available in all regions of the world.

⁴ 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 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.

⁵ WD 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.

⁶ Controlled unload at ambient condition.

⁷ Product MTBF and AFR specifications are based upon a 40°C base casting temperature and typical system workload rate of 210TB/year. Product is designed for workload rates up to 550TB/year.

⁸ See <http://support.wd.com/warranty> for regional specific warranty details.

⁹ No non-recoverable errors during operating tests or after non-operating tests.

¹⁰ Sound power level.



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