



# WD Re™

## Datcenter Capacity HDD

### Durable capacity storage for high-availability deployments

WD Re datcenter hard drives offer up to 4 TB capacities and are available with SAS or SATA interface. With the highest error tolerance and MTBF of any capacity-optimized drive, WD Re delivers the durability and 24x7x365 reliability required in tightly packed vibration prone multi-drive systems. The combination of high-capacity, peak performance and robust design make WD Re drives ideal for heavy workload environments, cloud storage, RAID arrays, external storage arrays, data warehousing and mining applications.



INTERFACE	WIDTH/HEIGHT	ROTATIONAL SPEED	CAPACITIES
SAS 6 Gb/s	3.5-inch/1-inch	7200 RPM	1 TB to 4 TB
<b>MODEL NUMBERS</b>			<i>Note: Not all products may be available in all regions of the world.</i>
WD4001FYYG	WD2001FYYG		
WD3001FYYG	WD1001FYYG		
WD200MFYYG			

## Product Benefits

### Industry's highest capacity nearline drive

Massive capacities up to 4 TB suit even the most demanding datacenter or cloud storage needs.

### Designed for heavy application workloads

Designed to handle up to 550 TB per year in any heavy application datacenter with the highest workload capabilities of any WD 3.5 hard drive. Up to 6 Gb/s transfer rates and sustained sequential data rates of up to 182 MB/s, deliver performance and reliability to any datacenter environment.

### Designed for quality and reliability

With up to 1.4 million hour MTBF, this high performance drive delivers durability and the highest level of reliability for 24x7x365 operation in the most demanding storage environments.

### Dual processor

Twice the processing power to maximize performance.

### 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 the previous generation of 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. (2 TB and above)

### Dynamic fly height technology

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

### Environmentally responsible

In addition to being RoHS compliant, these drives are built with halogen reduced components.

### Self Encrypting Drive (SED) option

Optional secure model for encrypting drives – Utilizing an AES 256 bit encryption engine for Crypto erase capability, WD supports the industry standard commands of both the SCSI Sanitize command with Crypto Erase and the Trusted Computing Group (TCG) command set.\*

### StableTrac™

The motor shaft is secured at both ends to reduce system-induced vibration and stabilize platters for accurate tracking during read and write operations. (2 TB and above)

### 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.

\* SED drives may require TCG-compliant host or controller support. SED drives may not be available in all countries.

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

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

### Multi-axis shock sensor

Automatically detects the subtlest shock events and compensates to protect the data.

### Dual port, full duplex connectivity

Offers higher reliability, performance and data availability by eliminating single points of failure, designed for high-availability mission-critical enterprise systems.

### Thermal extended burn-in test

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

## Applications

High-performance computing, high-reliability cloud storage, RAID arrays, high-availability external storage arrays, data warehousing and mining.

## The WD Advantage

WD puts our 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 longer 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.



Specifications	4 TB	3 TB	2 TB	2 TB	1 TB
Model number	WD4001FYYG	WD3001FYYG	WD200MFYYG	WD2001FYYG	WD1001FYYG
Interface	SAS 6 Gb/s	SAS 6 Gb/s	SAS 6 Gb/s	SAS 6 Gb/s	SAS 6 Gb/s
Formatted capacity <sup>1</sup>	4 TB	3 TB	2 TB	2 TB	1 TB
User sectors per drive	7,814,037,168	5,860,533,168	3,907,029,168	3,907,029,168	1,953,525,168
SCSI command queuing	Yes	Yes	Yes	Yes	Yes
Form factor	3.5-inch	3.5-inch	3.5-inch	3.5-inch	3.5-inch
RoHS compliant <sup>2</sup>	Yes	Yes	Yes	Yes	Yes
<b>Performance</b>					
Data transfer rate (max)					
Buffer to host	6 Gb/s	6 Gb/s	6 Gb/s	6 Gb/s	6 Gb/s
Host to/from drive (sustained)	182 MB/s	175 MB/s	170 MB/s	170 MB/s	170 MB/s
Cache (MB)	32	32	32	32	32
Rotational speed (RPM)	7200	7200	7200	7200	7200
<b>Reliability/Data Integrity</b>					
Load/unload cycles <sup>3</sup>	600,000	600,000	600,000	600,000	600,000
Non-recoverable read errors per bits read	<10 in 10 <sup>16</sup>	<10 in 10 <sup>16</sup>	<10 in 10 <sup>16</sup>	<10 in 10 <sup>16</sup>	<10 in 10 <sup>16</sup>
MTBF (hours) <sup>4</sup>	1,400,000	1,400,000	1,400,000	1,400,000	1,400,000
AFR (%) <sup>5</sup>	0.63	0.63	0.63	0.63	0.63
Limited warranty (years) <sup>6</sup>	5	5	5	5	5
<b>Power Management</b>					
Average power requirements (W)					
Sequential read	11.2	11.2	11.2	8.7	8.7
Sequential write	10.9	10.9	10.9	7.5	7.5
Random read/write	11.5	11.5	11.5	9	9
Idle	9.2	9.2	9.2	6.9	6.9
<b>Environmental Specifications<sup>7</sup></b>					
Temperature (°C)					
Operating	5 to 55	5 to 55	5 to 55	5 to 55	5 to 55
Non-operating	-40 to 70	-40 to 70	-40 to 70	-40 to 70	-40 to 70
Shock (Gs)					
Operating (2 ms, read/write)	30	30	30	30	30
Operating (2 ms, read)	65	65	65	65	65
Non-operating (2 ms)	300	300	300	300	300
Acoustics (dBA)					
Idle	31	31	31	31	31
Seek (average)	34	34	34	34	34
<b>Physical Dimensions</b>					
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, ± .01 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	1.66/0.75	1.55/0.70	1.55/0.70

<sup>1</sup> 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](http://www.sata-io.org) for details.

<sup>2</sup> 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.

<sup>3</sup> Controlled unload at ambient condition.

<sup>4</sup> Product MTBF and AFR specifications are based upon a 40°C base casing and system workloads of up to 550 TB/year (workload is defined as the amount of user data transferred to or from the hard drive).

<sup>5</sup> The term of the limited warranty may vary by region. Visit <http://support.wd.com/warranty> for details.

<sup>6</sup> No non-recoverable errors during operating tests or after non-operating tests.

<sup>7</sup> Sound power level.

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