



WD Re™

Datacenter Capacity HDD

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	WIDTH/HEIGHT	ROTATIONAL SPEED	CAPACITIES
SATA 6 Gb/s	3.5-inch/1-inch	7200 RPM	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 vibrations 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.



Specifications	4TB	3TB	2TB	2TB	1TB
512 native model number ¹	WD4000FYYZ	WD3000FYYZ	WD2000FYYZ	WD2004FBYZ	WD1004FBYZ
512 emulation model number ¹	—	—	—	—	—
4K native model number ¹	—	—	—	—	—
Interface	SATA 6 Gb/s	SATA 6 Gb/s	SATA 6 Gb/s	SATA 6 Gb/s	SATA 6 Gb/s
Formatted capacity ²	4TB	3TB	2TB	2TB	1TB
512n/512e user sectors per drive	7,814,037,168	5,860,533,168	3,907,029,168	3,907,029,168	1,953,525,168
4Kn user sectors per drive	—	—	—	—	—
Native 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 ³	Yes	Yes	Yes	Yes	Yes
Performance					
Data transfer rate (max) ² Buffer to host	6 Gb/s	6 Gb/s	6 Gb/s	6 Gb/s	6 Gb/s
Host to/from drive (sustained)	171 MB/s	168 MB/s	164 MB/s	200 MB/s	184 MB/s
Cache (MB)	64	64	64	128	128
Rotational speed (RPM)	7200	7200	7200	7200	7200
Reliability/Data Integrity					
Load/unload cycles ⁴	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
MTBF (hours)	2,000,000 ⁵	2,000,000 ⁵	2,000,000 ⁵	2,000,000 ⁶	2,000,000 ⁶
AFR (%)	0.44 ⁵	0.44 ⁵	0.44 ⁵	0.44 ⁶	0.44 ⁶
Limited warranty (years) ⁷	5	5	5	5	5
Power Management					
Average power requirements (W)					
Sequential read	9.6	9.6	7.7	7.4	7.4
Sequential write	9.5	9.5	7.6	7.4	7.4
Random read/write	11.9	11.9	9.1	8.1	8.1
Idle	8.1	8.1	6.2	5.9	5.9
Environmental Specifications⁸					
Temperature (°C)					
Operating	5 to 55	5 to 55	5 to 55	5 to 60	5 to 60
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) ⁹					
Idle	31	31	31	25	25
Seek (average)	34	34	34	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
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	1.55/0.70	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. 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.
³ 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.
⁴ Controlled unload at ambient condition.
⁵ Product MTBF and AFR specifications are based upon a 40°C base casting temperature and typical system workload of 240TB/year. Workload is defined as the amount of user data transferred to or from the hard drive. Product is designed for workloads up to 550TB/year.
⁶ Product MTBF and AFR specifications are based upon a 40°C base casting temperature and typical system workload of 300TB/year. Workload is defined as the amount of user data transferred to or from the hard drive. Product is designed for workloads up to 550TB/year.
⁷ See <http://support.wd.com/warranty> for regional specific warranty details.
⁸ No non-recoverable errors during operating tests or after non-operating tests.
⁹ Sound power level.

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