

# Enterprise Performance 10K HDD

VERSION 9

Channel Data Sheet

## The Perfect Match of High Capacity and High Performance

- High-capacity and small 2.5-inch footprint enables data centers to keep pace with data growth and optimize data center real estate.
- Delivers up to 2.4TB of high-performance data access for write-intensive applications
- Future-proof your storage infrastructure with a single advanced format interface model.
- Seagate® Enhanced Caching feature accelerates read and write I/O operations, preventing applications from slowing down under peak usage conditions.
- Latest 12Gb/s SAS interface for improved scalability
- Seagate Secure® features for preventing unauthorized access to data and for compliance with data security standards.
- Protection Information (PI) protects against data corruption.<sup>1</sup>
- Seagate Secure SED and FIPS 140-2 government-grade models provide security for data-at-rest, and Instant Secure Erase (ISE) helps cut IT drive retirement costs.<sup>2</sup>
- Seagate PowerChoice™ technology for T10-compliant power management enables IT organizations to tailor systems for enhanced power consumption.
- Seagate RAID Rebuild® technology option makes RAID recovery faster and safer.



## Best-Fit Applications

- Mission-critical servers and external storage arrays
- Database and online transaction process (OLTP) applications
- Power- and space-constrained data centers
- Green IT and drive-retirement cost reduction initiatives
- Compliance and data security initiatives
- Migration from 3.5-inch drive systems to next-generation technology
- Cost-effective alternative to higher-priced performance solutions

<sup>1</sup> Protection Information (PI) feature requires PI-compliant host or controller support.

<sup>2</sup> Not all drives may be available in all countries. Seagate Secure drives meet ISO/IEC 27040 and NIST 800-88 standards and may require use of TCG-compliant host or controller support.

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Specifications	FastFormat™ 512 Emulation/4K Native			
	2.4TB	1.8TB	1.2TB	600GB
Capacity	2.4TB	1.8TB	1.2TB	600GB
Standard Model	ST2400MM0129	ST1800MM0129	ST1200MM0129	ST600MM0099
Seagate Secure® SED Model <sup>1</sup>	—	—	ST1200MM0139	ST600MM0109
Seagate Secure FIPS 140-2/Common Criteria Model <sup>1,2</sup>	ST2400MM0149	ST1800MM0149	—	—
<b>PERFORMANCE</b>				
Spindle Speed (RPM)	10000RPM	10000RPM	10000RPM	10000RPM
Average Latency (ms)	2.9	2.9	2.9	2.9
Sustained Transfer Rate (Outer to Inner Diameter, MB/s)	270 to 117	270 to 117	270 to 117	270 to 117
Cache, Multisegmented (MB)	256	256	256	256
<b>ENHANCED CACHING FEATURES</b>				
I/O Acceleration and Response Time Optimization	Enabled	Enabled	Enabled	Enabled
NAND Flash Type	eMLC	eMLC	eMLC	eMLC
NAND Flash Size	16GB	16GB	16GB	16GB
Intelligent NAND Endurance Management	Yes	Yes	Yes	Yes
<b>ENTERPRISE FEATURES</b>				
Secure Download & Diagnostics (SD&D) and Instant Secure Erase Option	Yes	Yes	Yes	Yes
FastFormat (512e/4Kn AF Switching)	Yes	Yes	Yes	Yes
12Gb/s SAS	Yes	Yes	Yes	Yes
<b>CONFIGURATION/RELIABILITY</b>				
Disks/Heads	4/8	3/6	2/4	1/2
External Transfer Rate (MB/s)	1200	1200	1200	1200
Nonrecoverable Read Errors per Bits Read, Max	1 per 10E16	1 per 10E16	1 per 10E16	1 per 10E16
Annualized Failure Rate (AFR)	0.44%	0.44%	0.44%	0.44%
Limited Warranty (years)	5	5	5	5
<b>POWER MANAGEMENT</b>				
Typical Op (A) +5V/+12V	0.47/0.50	0.46/0.42	0.46/0.42	0.46/0.42
Typical Operating (W)	8.5	7.5	7.15	7.0
Average Idle Power (W)	4.8	4.4	3.91	3.8
Performance Efficiency Index (Idle W/GB)	0.0020	0.0024	0.0033	0.0063
<b>Environmental</b>				
Ambient Temperature, Operating (C°)	5°C – 55°C	5°C – 55°C	5°C – 55°C	5°C – 55°C
Ambient Temperature, Nonoperating (C°)	-40°C – 70°C	-40°C – 70°C	-40°C – 70°C	-40°C – 70°C
Shock, Max. Operating: 11ms (Gs)	40	40	40	40
Shock, Max. Nonoperating: 2ms (Gs)	400	400	400	400
Vibration, Operating: <500Hz (Gs)	0.5	0.5	0.5	0.5
Vibration, Nonoperating: <500Hz (Gs)	3	3	3	3
<b>PHYSICAL</b>				
Height (in/mm, max) <sup>3</sup>	0.591in/15.00mm	0.591in/15.00mm	0.591in/15.00mm	0.591in/15.00mm
Width (in/mm, max) <sup>3</sup>	2.760in/70.10mm	2.760in/70.10mm	2.760in/70.10mm	2.760in/70.10mm
Depth (in/mm, max) <sup>3</sup>	3.955in/100.45mm	3.955in/100.45mm	3.955in/100.45mm	3.955in/100.45mm
Weight (lb/g)	0.507lb/230g	0.507lb/230g	0.507lb/230g	0.496lb/225g
Carton Unit Quantity	40	40	40	40
Cartons per Pallet/Cartons per Layer	60/10	60/10	60/10	60/10

<sup>1</sup> Not all drives may be available in all countries. Seagate Secure drives meet ISO/IEC 27040 and NIST 800-88 standards and may require use of TCG-compliant host or controller support.

<sup>2</sup> FIPS 140-2 in review. See FIPS 140-2 Level 2 Certificate at <http://csrc.nist.gov/groups/STM/cmvp/validation.html>

<sup>3</sup> These base deck dimensions conform to the Small Form Factor Standard (SFF-8201) found at [www.sffcommittee.org](http://www.sffcommittee.org).



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Specifications	512 Native	
Capacity	1.2TB	600GB
Standard Model	ST1200MM0009	ST600MM0009
Seagate Secure® SED Model <sup>1</sup>	ST1200MM0039	ST600MM0039
Seagate Secure FIPS 140-2/Common Criteria Model <sup>1,2</sup>	—	—
<b>PERFORMANCE</b>		
Spindle Speed (RPM)	10000RPM	10000RPM
Average Latency (ms)	2.9	2.9
Sustained Transfer Rate (Outer to Inner Diameter, MB/s)	250 to 108	250 to 125
Cache, Multisegmented (MB)	128	128
<b>ENHANCED CACHING FEATURES</b>		
I/O Acceleration and Response Time Optimization	—	—
NAND Flash Type	—	—
NAND Flash Size	—	—
Intelligent NAND Endurance Management	—	—
<b>ENTERPRISE FEATURES</b>		
Secure Download & Diagnostics (SD&D) and Instant Secure Erase Option	Yes	Yes
FastFormat (512e/4Kn AF Switching)	—	—
12Gb/s SAS	Yes	Yes
<b>CONFIGURATION/RELIABILITY</b>		
Disks/Heads	2/4	1/2
External Transfer Rate (MB/s)	1200	1200
Nonrecoverable Read Errors per Bits Read, Max	1 per 10E16	1 per 10E16
Annualized Failure Rate (AFR)	0.44%	0.44%
Limited Warranty (years)	5	5
<b>POWER MANAGEMENT</b>		
Typical Op (A) +5V/+12V	0.45/0.38	0.45/0.35
Typical Operating (W)	7.25	6.68
Average Idle Power (W)	4.26	3.44
Performance Efficiency Index (Idle W/GB)	0.0036	0.0057
<b>Environmental</b>		
Ambient Temperature, Operating (C°)	5°C – 55°C	5°C – 55°C
Ambient Temperature, Nonoperating (C°)	-40°C – 70°C	-40°C – 70°C
Shock, Max. Operating: 11ms (Gs)	40	40
Shock, Max. Nonoperating: 2ms (Gs)	400	400
Vibration, Operating: <500Hz (Gs)	0.5	0.5
Vibration, Nonoperating: <500Hz (Gs)	3	3
<b>PHYSICAL</b>		
Height (in/mm, max) <sup>3</sup>	0.591in/15.00mm	0.591in/15.00mm
Width (in/mm, max) <sup>3</sup>	2.760in/70.10mm	2.760in/70.10mm
Depth (in/mm, max) <sup>3</sup>	3.955in/100.45mm	3.955in/100.45mm
Weight (lb/g)	0.426lb/193g	0.490lb/222g
Carton Unit Quantity	40	40
Cartons per Pallet/Cartons per Layer	60/10	60/10

<sup>1</sup> Not all drives may be available in all countries. Seagate Secure drives meet ISO/IEC 27040 and NIST 800-88 standards and may require use of TCG-compliant host or controller support.

<sup>2</sup> FIPS 140-2 in review. See FIPS 140-2 Level 2 Certificate at <http://csrc.nist.gov/groups/STM/cmvp/validation.html>

<sup>3</sup> These base deck dimensions conform to the Small Form Factor Standard (SFF-8201) found at [www.sffcommittee.org](http://www.sffcommittee.org).

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