



Data Sheet

Constellation.2™

Design small and deliver BIG—2.5-inch, eco-friendly nearline drive

1TB, 500GB and 250GB • 7200 RPM • 6Gb/s SAS • SATA 6Gb/s

Key Advantages

- Second generation of the first 2.5-inch, mainstream capacity, 15mm z-height, enterprise-class nearline drive for space-constrained data centers
- Choose 6Gb/s SAS for improved data integrity, scalability and fast data access, or SATA 6Gb/s for fast, economical Tier 2/nearline performance.
- The industry's highest-reliability 7200-RPM drive, designed for 24×7 operation with MTBF of 1.4M hours and AFR of 0.62%—all backed by a 5-year limited warranty
- Enterprise-class firmware features and best-in-class rotational vibration tolerance maximizes system availability and performance in multi-drive systems, top performance of up to 115MB/s of maximum sustained throughput.
- Lowest operating power (under 6.4W) and enhanced PowerChoice[™] options for additional power savings (up to 54%—as low as 1.1W) during slow or idle periods; Workload Management[™] technology helps systems keep drives cool.
- Government-grade Self-Encrypting Drive security option available¹

Best-Fit Applications

- Storage-hungry business applications
- Storage area networks (SAN) and network attached storage (NAS)
- Maximum-capacity servers and blade servers
- Rich media content storage—audio, video, image
- Reference and compliance data storage
- Enterprise backup and restore—D2D, virtual tape
- Cloud computing

 $1 \ \mathsf{Self}\text{-}\mathsf{Encrypting} \ \mathsf{Drive} \ \mathsf{option}. \ \mathsf{Requires} \ \mathsf{TCG}\text{-}\mathsf{compliant} \ \mathsf{host} \ \mathsf{or} \ \mathsf{controller} \ \mathsf{support}. \ \mathsf{Not} \ \mathsf{available} \ \mathsf{in} \ \mathsf{all} \ \mathsf{countries}.$







Constellation.2[™]

Design small and deliver BIG— 2.5-inch, eco-friendly nearline drive



Specifications	6Gb/s SAS		SATA 6Gb/s		
	1TB ¹	500GB ¹	1TB ¹	500GB ¹	250GB ¹
Model Number	ST91000640SS	ST9500620SS	ST91000640NS	ST9500620NS	ST9250610NS
Monet Mainbel	ST91000641SS ²	ST9500621SS ²	ST91000641NS ²	ST9500621NS ²	ST9250611NS ²
Features					
Protection Information	Yes	Yes	_	_	_
Low Halogen	Yes	Yes	Yes	Yes	Yes
Reliability/Data Integrity					
Mean Time Between Failures (MTBF, hours)	1.4 million	1.4 million	1.4 million	1.4 million	1.4 million
Reliability Rating @ Full 24x7 Operation (AFR)	0.62%	0.62%	0.62%	0.62%	0.62%
Nonrecoverable Read Errors per Bits Read	1 sector per 10E15	1 sector per 10E15	1 sector per 10E15	1 sector per 10E15	1 sector per 10E15
Power-On Hours per Year	8760	8760	8760	8760	8760
Bytes per Sector	512, 520, 528	512, 520, 528	512	512	512
Limited Warranty (years)	5	5	5	5	5
Performance					
Spindle Speed (RPM)	7200	7200	7200	7200	7200
Cache, Multisegmented (MB)	64	64	64	64	64
Interface Access Speed (Gb/s)	6.0, 3.0, 1.5	6.0, 3.0, 1.5	6.0, 3.0, 1.5	6.0, 3.0, 1.5	6.0, 3.0, 1.5
Max. Sustained Transfer Rate (MB/s)	115	115	115	115	115
Seek Time, Average Read/Write (ms)	8.5/9.5	8.5/9.5	8.5/9.5	8.5/9.5	8.5/9.5
Average Latency (ms)	4.16	4.16	4.16	4.16	4.16
Interface Ports	Dual	Dual	Single	Single	Single
RV Tolerance (rad/s² to 1800Hz)	16	16	16	16	16
Power Management					
Idle Power (W)	3.85	3.27	3.31	2.67	2.52
Typical Operating, Random Read (W)	6.4	5.6	5.21	4.51	4.35
Power Supply Requirements	+12V and +5V	+12V and +5V	+12V and +5V	+12V and +5V	+12V and +5V
PowerChoice [™] Technology (W) ³	As low as 1.87	As low as 1.87	As low as 1.19	As low as 1.19	As low as 1.19
Environmental					
Temperature, Operating (°C)	5 to 60	5 to 60	5 to 60	5 to 60	5 to 60
Vibration, Operating, <400Hz (Gs)	0.5	0.5	0.5	0.5	0.5
Vibration, Nonoperating, <500Hz (Gs)	3.0	3.0	3.0	3.0	3.0
Shock, Operating, 2ms (Gs)	70	70	70	70	70
Shock, Nonoperating, 1ms and 2ms (Gs)	400	400	400	400	400
Acoustics, Typical Idle (bels)	2.2	2.2	2.2	2.2	2.2
Acoustics, Typical Seek (bels)	2.8	2.8	2.8	2.8	2.8
Physical					
Z Height (mm)	15	15	15	15	15
Height (in/mm)	0.583/14.8	0.583/14.8	0.583/14.8	0.583/14.8	0.583/14.8
Width (in/mm)	2.76/70	2.76/70	2.76/70	2.76/70	2.76/70
Depth (in/mm)	3.957/100.5	3.957/100.5	3.957/100.5	3.957/100.5	3.957/100.5
Weight (lb/kg)	0.441/0.200	0.403/0.183	0.441/0.200	0.403/0.183	0.395/0.179

¹ One gigabyte, or GB, equals one billion bytes and one terabyte, or TB, equals one trillion bytes when referring to drive capacity.

3 Based on 1TB capacity model.

www.seagate.com 1-800-SEAGATE (1-800-732-4283)

AMERICAS Seagate Technology LLC 920 Disc Drive, Scotts Valley, California 95066, United States, 831-438-6550

ASIA/PACIFIC Seagate Singapore International Headquarters Pte. Ltd. 7000 Ang Mo Kio Avenue 5, Singapore 569877, 65-6485-3888

EUROPE, MIDDLE EAST AND AFRICA Seagate Technology SAS 16–18 rue du Dôme, 92100 Boulogne-Billancourt, France, 331-4186 10 00

© 2010 Seagate Technology LLC. All rights reserved. Printed in USA. Seagate, Seagate Technology and the Wave logo are registered trademarks of Seagate Technology LLC in the United States and/or other countries. Constellation, Constellation, Constellation, 2, PowerChoice, Unified Storage and Workload Management are either trademarks or registered trademarks of Seagate Technology LLC or one of its affiliated companies in the United States and/or other countries. All other trademarks or registered trademarks are the property of their respective owners. When referring to drive capacity, one gigabyte, or GB, equals one billion bytes and one terabyte, or TB, equals one trillion bytes. Your computer's operating system may use a different standard of measurement and report a lower capacity. In addition, some of the listed capacity is used for formatting and other functions, and thus will not be available for data storage. The export or re-export of hardware or software containing encryption may be regulated by the U.S. Department of Commerce, Bureau of Industry and Security (for more information, visit www.bis.doc.gov), and controlled for import and use outside of the U.S. Seagate reserves the right to change, without notice, product offerings or specifications. DS1719.1-1007US, July 2010

² Self-Encrypting Drive model; requires TCG-compliant host or controller support. Not available in all countries.