



DATA SHEET

Trusted. Efficient. Versatile.

Exos 7E8

The Seagate[®] Exos[™] 7E8 enterprise hard drive confidently stores up to 8TB of data without sacrificing performance. The secure, high-capacity, high-performance drives are optimized for demanding enterprise bulk data applications.





Best-Fit Applications

- Hyperscale applications/cloud data centers
- Massive scale-out data centers
- OLTP and HPC applications
- High-capacity density RAID storage
- Mainstream enterprise external storage arrays
- Distributed file systems, including Hadoop and Ceph
- Enterprise backup and restore—D2D, virtual tape
- Centralized surveillance



Enterprise Drive for Bulk Data Applications

Exos 7E8 hard drives support up to 8TB per drive, ¹ offering bulk data storage for data center infrastructures requiring a highly reliable enterprise hard drive. Exos 7E8 provides cost-effective, reliable access to unstructured data. Built on field-proven 10th-generation conventional magnetic recording (CMR) technology, the Exos 7E8 drive helps to catalyze the datasphere, enabling data center architects and IT professionals to deliver trusted performance, rock-solid reliability, ironclad security, and low TCO for demanding 24×7 operations.

Robust Bulk Data Storage for a 24×7 World

Exos 7E8 drives are backed by a 2 million hour MTBF rating and support workloads of 550TB per year—10× that of desktop hard drives. With state-of-the-art cache, on-the-fly error-correction algorithms, and rotational vibration design, the Exos 7E8 helps ensure consistent performance in replicated and RAID multi-drive systems.

High Performance for Mainstream Data Center Applications

Meet your storage workload requirements in the most efficient and cost-effective data center footprint on the market today. The Exos 7E8 delivers easy integration into bulk storage systems with 12Gb/s SAS and SATA 6Gb/s interface options. With user-definable innovative technology advancements like PowerChoice™ and Seagate RAID Rebuild®, you can tailor your nearline storage requirements for even greater improvements in lowering your TCO.

Enhanced Reliability, Data Protection, and Security

Advanced security features help protect data where it lives—on the drive. Exos 7E8 prevents unauthorized drive access and safeguards stored data with security features that include Secure Downloads & Diagnostics, TCG-compliant Self-Encrypting Drive, and government-grade FIPS/Common Criteria tamper-resistent hard drive.² Seagate Secure™ drives simplify drive repurposing and disposal, help protect data-at-rest, and comply with corporate and federal data security mandates.

1 Seagate recommends validating your configuration with your HBA/RAID controller manufacturer to ensure full capacity capabilities. 2 Self-Encrypting Drives (SED) are not available in all models or countries. May require TCG-compliant host or controller support.





Specifications			512n SATA		ı
Capacity	6TB	4TB	3TB	2TB	1TB
Base Model	ST6000NM002A	ST4000NM000A	ST3000NM000A	ST2000NM000A	ST1000NM000A
PowerBalance [™] Model	_	_	_	_	_
Seagate Secure [™] SED Model ¹	_	ST4000NM006A	_	_	ST1000NM002A
Seagate Secure SED-FIPS Model ¹	_	ST4000NM013A	ST3000NM004A	_	_
Features					
Protection Information (T10 DIF)	_	_	_	_	_
Humidity Sensor	Yes	Yes	Yes	Yes	Yes
SuperParity	Yes	Yes	Yes	Yes	Yes
Low Halogen	Yes	Yes	Yes	Yes	Yes
$PowerChoice^{^{TM}}Technology$	Yes	Yes	Yes	Yes	Yes
PowerBalance Technology	Yes	Yes	Yes	Yes	Yes
Cache, Multisegmented (MB)	256	256	256	256	256
Advanced Write Caching (2M internal NOR flash)	Yes	Yes	Yes	Yes	Yes
Reliability/Data Integrity					
Vibration, Nonoperating: 10Hz to 500Hz (Grms)	5	5	5	5	5
Mean Time Between Failures (MTBF, hours)	2,000,000	2,000,000	2,000,000	2,000,000	2,000,000
Reliability Rating @ Full 24×7 Operation (AFR)	0.44%	0.44%	0.44%	0.44%	0.44%
Nonrecoverable Read Errors per Bits Read	1 sector per 10E15				
Power-On Hours per Year	8760	8760	8760	8760	8760
Sector Size (Bytes per Logical Sector)	512	512	512	512	512
Warranty, Limited (years)	5	5	5	5	5
Performance					
Spindle Speed (RPM)	7200	7200	7200	7200	7200
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 OD	215MB/s	215MB/s	215MB/s	215MB/s	215MB/s
Average Latency (ms)	4.16	4.16	4.16	4.16	4.16
Interface Ports	Single	Single	Single	Single	Single
Rotational Vibration @ 1500Hz (rad/s²)	12.5	12.5	12.5	12.5	12.5
Power Consumption					
Idle Power, Average (W)	7.1	5.38	5.38	4.48	4.48
Typical Operating, Random Read (W)	12.91	10.77	10.77	9.91	9.91
Power Supply Requirements	+12 V and +5 V				
Environmental					
Temperature, Operating (°C)	5°C-60°C	5°C-60°C	5°C-60°C	5°C-60°C	5°C-60°C
Shock, Operating 2ms Read/Write (Gs)	70/40Gs	70/40Gs	70/40Gs	70/40Gs	70/40Gs
Shock, Nonoperating, (1ms/2ms) (Gs)	150/300	150/300	150/300	150/300	150/300
Physical					
Height (in/mm, max) ²	1.028in/26.1mm	1.028in/26.1mm	1.028in/26.1mm	1.028in/26.1mm	1.028in/26.1mm
Width (in/mm, max) ²	4.010in/101.85mm	4.010in/101.85mm	4.010in/101.85mm	4.010in/101.85mm	4.010in/101.85mm
Depth (in/mm, max) ²	5.787in/147.0mm	5.787in/147.0mm	5.787in/147.0mm	5.787in/147.0mm	5.787in/147.0mm
Weight (g/lb)	716g/1.58lb	649g/1.43lb	649g/1.43lb	620g/1.37lb	620g/1.37lb
Carton Unit Quantity	20	20	20	20	20
Cartons per Pallet/Cartons per Layer	40/8	40/8	40 / 8	40/8	40/8
1 77				<u> </u>	

¹ Self-Encrypting Drives (SED), Instant Secure Erase (ISE) drives, and FIPS 140-2 Validated drives are not available in all models or countries. May require TCG-compliant host or controller support.

² These base deck dimensions conform to the Small Form Factor Standard (SFF-8201) found at www.sffcommittee.org. For connector-related dimensions, see SFF-8223.





Canada	Specifications			512n SAS		
Reservation Mineral	•	6TB	/TR	î	2TB	1TR
Promer Bilderice Model						
Seegals Secure SED Modal	TH				012000IVI000A	
Security Security Sept Pipes Model						
Procession formation (110 DBP) Yes Y	Seagate Secure [™] SED Model ¹	_	ST4000NM007A	ST3000NM003A	ST2000NM007A	_
President Information (T10 DIF) Yes	Seagate Secure SED-FIPS Model ¹		ST4000NM015A	ST3000NM005A	_	_
Humiday Sensor	Features					
Super Parity Yes Y	Protection Information (T10 DIF)	Yes	Yes	Yes	Yes	Yes
Deep Missing Yes	Humidity Sensor	Yes	Yes	Yes	Yes	Yes
Power Circlaice Technology	SuperParity	Yes	Yes	Yes	Yes	Yes
Power Balance Technology	Low Halogen	Yes	Yes	Yes	Yes	Yes
Cache, Multisegmented (MB) 256	$PowerChoice^{^{TM}}Technology$	Yes	Yes	Yes	Yes	Yes
Advanced Write Caching (28t internal NOR Itash) Yes Yes Yes Yes Yes Yes Yes Ye	PowerBalance Technology	Yes	Yes	Yes	Yes	Yes
Vibration Nonoperating: 10Hz to 500Hz (Grms) 5 5 5 5 5 5	Cache, Multisegmented (MB)	256	256	256	256	256
Vibration, Nonoperating: 10Hz to 500Hz (Grims)	Advanced Write Caching (2M internal NOR flash)	Yes	Yes	Yes	Yes	Yes
Mean Time Between Failures (MTBF, hours) 2,000,000	Reliability/Data Integrity					
Reliability Rating @ Full 24-7 Operation (AFR)	Vibration, Nonoperating: 10Hz to 500Hz (Grms)	5	5	5	5	5
Norrecoverable Read Errors per Bils Read 1 sector per 10E15 1 sector per 10E15 1 sector per 10E15 1 sector per 10E15 1 sector per 10E15 1 sector per 10E15 1 sector per 10E15 1 sector per 10E15 1 sector per 10E15 1 sector per	Mean Time Between Failures (MTBF, hours)	2,000,000	2,000,000	2,000,000	2,000,000	2,000,000
Power-On Hours per Year 8760 8760 8760 8760 8760 8760 8760 8760	Reliability Rating @ Full 24×7 Operation (AFR)	0.44%	0.44%	0.44%	0.44%	0.44%
Sector Size (Bytes per Logical Sector) 512 512 512 512 512 512 512 Warranty, Limited (years) 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5	Nonrecoverable Read Errors per Bits Read	1 sector per 10E15				
Warrarty, Limited (years) 5 5 5 5 5 5 5 5 5	Power-On Hours per Year	8760	8760	8760	8760	8760
Performance Spindle Speed (RPM) 7200	Sector Size (Bytes per Logical Sector)	512	512	512	512	512
Sprinde Speed (RPM) 7200	Warranty, Limited (years)	5	5	5	5	5
Interface Access Speed (Gb/s) 12.0, 6.0, 3.0 12.0,	Performance					
Max. Sustained Transfer Rate OD 215MB/s 215MB/s <th< td=""><td>Spindle Speed (RPM)</td><td>7200</td><td>7200</td><td>7200</td><td>7200</td><td>7200</td></th<>	Spindle Speed (RPM)	7200	7200	7200	7200	7200
Average Latency (ms)	Interface Access Speed (Gb/s)	12.0, 6.0, 3.0	12.0, 6.0, 3.0	12.0, 6.0, 3.0	12.0, 6.0, 3.0	12.0, 6.0, 3.0
Dual	Max. Sustained Transfer Rate OD	215MB/s	215MB/s	215MB/s	215MB/s	215MB/s
Rotational Vibration @ 1500Hz (rad/s²) 12.5 10.0 1	Average Latency (ms)	4.16	4.16	4.16	4.16	4.16
Power Consumption	Interface Ports	Dual	Dual	Dual	Dual	Dual
Idle Power, Average (W) 7.97 5.94 5.94 4.86 4.86 Typical Operating, Random Read (W) 13.18 11.33 11.33 10.09 10.09 Power Supply Requirements +12 V and +5 V	Rotational Vibration @ 1500Hz (rad/s²)	12.5	12.5	12.5	12.5	12.5
Typical Operating, Random Read (W) 13.18 11.33 11.33 10.09 10.09 Power Supply Requirements +12 V and +5 V +1	Power Consumption					
Power Supply Requirements	Idle Power, Average (W)	7.97	5.94	5.94	4.86	4.86
Temperature, Operating (°C) 5°C - 60°C	Typical Operating, Random Read (W)	13.18	11.33	11.33	10.09	10.09
Temperature, Operating (°C) 5°C - 60°C 2°C 20°C 20°C 20°C 20°C	Power Supply Requirements	+12 V and +5 V				
Shock, Operating 2ms Read/Write (Gs) 70/40Gs	Environmental					
Shock, Nonoperating, (1ms/2ms) (Gs) 150/300	Temperature, Operating (°C)	5°C-60°C	5°C-60°C	5°C-60°C	5°C-60°C	5°C-60°C
Physical	Shock, Operating 2ms Read/Write (Gs)	70/40Gs	70/40Gs	70/40Gs	70/40Gs	70/40Gs
Height (in/mm, max)² 1.028in/26.1mm 4.010in/101.85mm 5.787in/147.0mm 5.787in/147.0mm 5.787in/147.0mm 5.787in/147.0mm 5.787in/147.0mm 5.787in/147.0mm 5.787in/147.0mm 5.787in/147.0mm 5.787	Shock, Nonoperating, (1ms/2ms) (Gs)	150/300	150/300	150/300	150/300	150/300
Width (in/mm, max) ² 4.010in/101.85mm 5.787in/147.0mm 5.787in/147.0mm 5.787in/147.0m	Physical					
Depth (in/mm, max) ² 5.787in/147.0mm 5.787in/147.0mm 5.787in/147.0mm 5.787in/147.0mm 5.787in/147.0mm Weight (g/lb) 716g/1.58lb 649g/1.43lb 649g/1.43lb 620g/1.37lb 620g/1.37lb Carton Unit Quantity 20 20 20 20 20	Height (in/mm, max) ²	1.028in/26.1mm	1.028in/26.1mm	1.028in/26.1mm	1.028in/26.1mm	1.028in/26.1mm
Weight (g/lb) 716g/1.58lb 649g/1.43lb 649g/1.43lb 620g/1.37lb 620g/1.37lb Carton Unit Quantity 20 20 20 20 20	Width (in/mm, max) ²	4.010in/101.85mm	4.010in/101.85mm	4.010in/101.85mm	4.010in/101.85mm	4.010in/101.85mm
Carton Unit Quantity 20 20 20 20 20 20	Depth (in/mm, max) ²	5.787in/147.0mm	5.787in/147.0mm	5.787in/147.0mm	5.787in/147.0mm	5.787in/147.0mm
Carton Unit Quantity 20 20 20 20 20	Weight (g/lb)	716g/1.58lb	649g/1.43lb	649g/1.43lb	620g/1.37lb	620g/1.37lb
	Carton Unit Quantity		_			
	Cartons per Pallet/Cartons per Layer	40 / 8	40 / 8	40 / 8	40 / 8	40 / 8

¹ Self-Encrypting Drives (SED), Instant Secure Erase (ISE) drives, and FIPS 140-2 Validated drives are not available in all models or countries. May require TCG-compliant host or controller support.

² These base deck dimensions conform to the Small Form Factor Standard (SFF-8201) found at www.sffcommittee.org. For connector-related dimensions, see SFF-8223.





			TV	
Specifications		512e/4KN (Fas	tFormat [™]) SATA	
Capacity	8TB	6TB	4TB	2TB
Base Model	ST8000NM000A	ST6000NM021A	ST4000NM002A	ST2000NM001A
PowerBalance [™] Model	ST8000NM016A	ST6000NM037A	_	_
Seagate Secure [™] SED Model ¹	ST8000NM004A	_	ST4000NM010A	
Seagate Secure SED-FIPS Model ¹	ST8000NM008A	ST6000NM025A	ST4000NM012A	_
Features				
Protection Information (T10 DIF)	_	_	_	_
Humidity Sensor	Yes	Yes	Yes	Yes
SuperParity	Yes	Yes	Yes	Yes
Low Halogen	Yes	Yes	Yes	Yes
PowerChoice [™] Technology	Yes	Yes	Yes	Yes
PowerBalance Technology	Yes	Yes	Yes	Yes
Cache, Multisegmented (MB)	256	256	256	256
Advanced Write Caching (2M internal NOR flash)	Yes	Yes	Yes	Yes
Reliability/Data Integrity				
Vibration, Nonoperating: 10Hz to 500Hz (Grms)	5	5	5	5
Mean Time Between Failures (MTBF, hours)	2,000,000	2,000,000	2,000,000	2,000,000
Reliability Rating @ Full 24×7 Operation (AFR)	0.44%	0.44%	0.44%	0.44%
Nonrecoverable Read Errors per Bits Read	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
Sector Size (Bytes per Logical Sector)	512	512	512	512
Warranty, Limited (years)	5	5	5	5
Performance				
Spindle Speed (RPM)	7200	7200	7200	7200
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
Max. Sustained Transfer Rate OD	249MB/s	245MB/s	226MB/s	226MB/s
Average Latency (ms)	4.16	4.16	4.16	4.16
Interface Ports	Single	Single	Single	Single
Rotational Vibration @ 1500Hz (rad/s²)	12.5	12.5	12.5	12.5
Power Consumption				
Idle Power, Average (W)	7.64	6.20	5.40	4.42
Typical Operating, Random Read (W)	12.81	11.67	10.89	9.83
Power Supply Requirements	+12 V and +5 V	+12 V and +5 V	+12 V and +5 V	+12 V and +5 V
Environmental				
Temperature, Operating (°C)	5°C-60°C	5°C-60°C	5°C - 60°C	5°C-60°C
Shock, Operating 2ms Read/Write (Gs)	70/40Gs	70/40Gs	70/40Gs	70/40Gs
Shock, Nonoperating, (1ms/2ms) (Gs)	150/300	150/300	150/300	150/300
Physical				
Height (in/mm, max) ²	1.028in/26.1mm	1.028in/26.1mm	1.028in/26.1mm	1.028in/26.1mm
Width (in/mm, max) ²	4.010in/101.85mm	4.010in/101.85mm	4.010in/101.85mm	4.010in/101.85mm
Depth (in/mm, max) ²	5.787in/147.0mm	5.787in/147.0mm	5.787in/147.0mm	5.787in/147.0mm
Weight (g/lb)	716g/1.58lb	693g/1.53lb	649g/1.43lb	620g/1.37lb
Carton Unit Quantity	20	20	20	20
Cartons per Pallet/Cartons per Layer	40 / 8	40 / 8	40 / 8	40 / 8

¹ Self-Encrypting Drives (SED), Instant Secure Erase (ISE) drives, and FIPS 140-2 Validated drives are not available in all models or countries. May require TCG-compliant host or controller support.

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Specifications	512e/4KN (FastFormat) SAS				
Capacity	8TB	6TB	4TB	2TB	
Base Model	ST8000NM001A	ST6000NM029A	ST4000NM005A	ST2000NM004A	
PowerBalance [™] Model			—	312000NN004A	
					
Seagate Secure [™] SED Model ¹	ST8000NM006A		ST4000NM011A	<u> </u>	
Seagate Secure SED-FIPS Model 1	ST8000NM010A	ST6000NM033A	ST4000NM014A	_	
Features					
Protection Information (T10 DIF)	Yes	Yes	Yes	Yes	
Humidity Sensor	Yes	Yes	Yes	Yes	
SuperParity	Yes	Yes	Yes	Yes	
Low Halogen	Yes	Yes	Yes	Yes	
PowerChoice [™] Technology	Yes	Yes	Yes	Yes	
PowerBalance Technology	Yes	Yes	Yes	Yes	
Cache, Multisegmented (MB)	256	256	256	256	
Advanced Write Caching (2M internal NOR flash)	Yes	Yes	Yes	Yes	
Reliability/Data Integrity					
Vibration, Nonoperating: 10Hz to 500Hz (Grms)	5	5	5	5	
Mean Time Between Failures (MTBF, hours)	2,000,000	2,000,000	2,000,000	2,000,000	
Reliability Rating @ Full 24×7 Operation (AFR)	0.44%	0.44%	0.44%	0.44%	
Nonrecoverable Read Errors per Bits Read	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	
Sector Size (Bytes per Logical Sector)	512, 520, 528	512, 520, 528	512, 520, 528	512, 520, 528	
Warranty, Limited (years)	5	5	5	5	
Performance					
Spindle Speed (RPM)	7200	7200	7200	7200	
Interface Access Speed (Gb/s)	12.0, 6.0, 3.0	12.0, 6.0, 3.0	12.0, 6.0, 3.0	12.0, 6.0, 3.0	
Max. Sustained Transfer Rate OD	249MB/s	245MB/s	226MB/s	226MB/s	
Average Latency (ms)	4.16	4.16	4.16	4.16	
Interface Ports	Dual	Dual	Dual	Dual	
Rotational Vibration @ 1500Hz (rad/s²)	12.5	12.5	12.5	12.5	
Power Consumption					
Idle Power, Average (W)	7.97	6.84	5.79	5.06	
Typical Operating, Random Read (W)	13.18	12.3	11.12	10.14	
Power Supply Requirements	+12 V and +5 V	+12 V and +5 V	+12 V and +5 V	+12 V and +5 V	
Environmental					
Temperature, Operating (°C)	5°C – 60°C	5°C-60°C	5°C -60°C	5°C-60°C	
Shock, Operating 2ms Read/Write (Gs)	70/40Gs	70/40Gs	70/40Gs	70/40Gs	
Shock, Nonoperating, (1ms/2ms) (Gs)	150/300	150/300	150/300	150/300	
Physical					
Height (in/mm, max) ²	1.028in/26.1mm	1.028in/26.1mm	1.028in/26.1mm	1.028in/26.1mm	
Width (in/mm, max) ²	4.010in/101.85mm	4.010in/101.85mm	4.010in/101.85mm	4.010in/101.85mm	
Depth (in/mm, max) ²	5.787in/147.0mm	5.787in/147.0mm	5.787in/147.0mm	5.787in/147.0mm	
Weight (g/lb)	716g/1.58lb	693g/1.53lb	649g/1.43lb	620g/1.37lb	
Carton Unit Quantity	20	20	20	20	
Cartons per Pallet/Cartons per Layer	40 / 8	40 / 8	40 / 8	40 / 8	

¹ Self-Encrypting Drives (SED), Instant Secure Erase (ISE) drives, and FIPS 140-2 Validated drives are not available in all models or countries. May require TCG-compliant host or controller support.

² These base deck dimensions conform to the Small Form Factor Standard (SFF-8201) found at www.sffcommittee.org. For connector-related dimensions, see SFF-8223.





Considerations	4Kn SATA				
Specifications	270		1		
Capacity	8TB	6TB	4TB	2TB	
Base Model	ST8000NM002A	ST6000NM022A	ST4000NM001A	ST2000NM002A	
PowerBalance [™] Model	_	_	_	_	
Seagate Secure [™] SED Model ¹		_	_	_	
Seagate Secure SED-FIPS Model ¹	_	_	_	_	
Features					
Protection Information (T10 DIF)	_	_	_	_	
Humidity Sensor	Yes	Yes	Yes	Yes	
SuperParity	Yes	Yes	Yes	Yes	
Low Halogen	Yes	Yes	Yes	Yes	
$PowerChoice^{^{TM}}Technology$	Yes	Yes	Yes	Yes	
PowerBalance Technology	Yes	Yes	Yes	Yes	
Cache, Multisegmented (MB)	256	256	256	256	
Advanced Write Caching (2M internal NOR flash)	Yes	Yes	Yes	Yes	
Reliability/Data Integrity					
Vibration, Nonoperating: 10Hz to 500Hz (Grms)	5	5	5	5	
Mean Time Between Failures (MTBF, hours)	2,000,000	2,000,000	2,000,000	2,000,000	
Reliability Rating @ Full 24×7 Operation (AFR)	0.44%	0.44%	0.44%	0.44%	
Nonrecoverable Read Errors per Bits Read	1 sector per 10E15				
Power-On Hours per Year	8760	8760	8760	8760	
Sector Size (Bytes per Logical Sector)	4096	4096	4096	4096	
Warranty, Limited (years)	5	5	5	5	
Performance					
Spindle Speed (RPM)	7200	7200	7200	7200	
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	
Max. Sustained Transfer Rate OD	249MB/s	245MB/s	226MB/s	226MB/s	
Average Latency (ms)	4.16	4.16	4.16	4.16	
Interface Ports	Single	Single	Single	Single	
Rotational Vibration @ 1500Hz (rad/s²)	12.5	12.5	12.5	12.5	
Power Consumption					
Idle Power, Average (W)	7.64	6.2	5.4	4.42	
Typical Operating, Random Read (W)	12.81	11.67	10.89	9.83	
Power Supply Requirements	+12 V and +5 V				
Environmental					
Temperature, Operating (°C)	5°C-60°C	5°C-60°C	5°C-60°C	5°C-60°C	
Shock, Operating 2ms Read/Write (Gs)	70/40Gs	70/40Gs	70/40Gs	70/40Gs	
Shock, Nonoperating, (1ms/2ms) (Gs)	150/300	150/300	150/300	150/300	
Physical					
Height (in/mm, max) ²	1.028in/26.1mm	1.028in/26.1mm	1.028in/26.1mm	1.028in/26.1mm	
Width (in/mm, max) ²	4.010in/101.85mm	4.010in/101.85mm	4.010in/101.85mm	4.010in/101.85mm	
Depth (in/mm, max) ²	5.787in/147.0mm	5.787in/147.0mm	5.787in/147.0mm	5.787in/147.0mm	
Weight (g/lb)	716g/1.58lb	693g/1.53lb	649g/1.43lb	620g/1.37lb	
Carton Unit Quantity	20	20	20	20	
Cartons per Pallet/Cartons per Layer	40/8	40 / 8	40 / 8	40 / 8	
Janons ner Pallet/Lartons ner LaVer	1 40/8	40/8	40/8	40/8	

¹ Self-Encrypting Drives (SED), Instant Secure Erase (ISE) drives, and FIPS 140-2 Validated drives are not available in all models or countries. May require TCG-compliant host or controller support.

² These base deck dimensions conform to the Small Form Factor Standard (SFF-8201) found at www.sffcommittee.org. For connector-related dimensions, see SFF-8223.





Specifications		4Kr	SAS	
Capacity	8TB	6TB	4TB	2TB
Base Model	ST8000NM003A	ST6000NM030A	ST4000NM004A	ST2000NM005A
PowerBalance [™] Model	_	_	_	_
Seagate Secure [™] SED Model ¹			_	
Seagate Secure SED-FIPS Model	_	_	_	_
Features				
Protection Information (T10 DIF)	Yes	Yes	Yes	Yes
Humidity Sensor	Yes	Yes	Yes	Yes
SuperParity	Yes	Yes	Yes	Yes
Low Halogen	Yes	Yes	Yes	Yes
PowerChoice [™] Technology	Yes	Yes	Yes	Yes
PowerBalance Technology	Yes	Yes	Yes	Yes
Cache, Multisegmented (MB)	256	256	256	256
Advanced Write Caching (2M internal NOR flash)	Yes	Yes	Yes	Yes
Reliability/Data Integrity				
Vibration, Nonoperating: 10Hz to 500Hz (Grms)	5	5	5	5
Mean Time Between Failures (MTBF, hours)	2,000,000	2,000,000	2,000,000	2,000,000
Reliability Rating @ Full 24×7 Operation (AFR)	0.44%	0.44%	0.44%	0.44%
Nonrecoverable Read Errors per Bits Read	1 sector per 10E15			
Power-On Hours per Year	8760	8760	8760	8760
Sector Size (Bytes per Logical Sector)	4096, 4160, 4224	4096, 4160, 4224	4096, 4160, 4224	4096, 4160, 4224
Warranty, Limited (years)	5	5	5	5
Performance				
Spindle Speed (RPM)	7200	7200	7200	7200
Interface Access Speed (Gb/s)	12.0, 6.0, 3.0	12.0, 6.0, 3.0	12.0, 6.0, 3.0	12.0, 6.0, 3.0
Max. Sustained Transfer Rate OD	249MB/s	245MB/s	226MB/s	226MB/s
Average Latency (ms)	4.16	4.16	4.16	4.16
Interface Ports	Dual	Dual	Dual	Dual
Rotational Vibration @ 1500Hz (rad/s²)	12.5	12.5	12.5	12.5
Power Consumption				
Idle Power, Average (W)	7.97	6.84	5.79	5.06
Typical Operating, Random Read (W)	13.18	12.30	11.12	10.14
Power Supply Requirements	+12 V and +5 V			
Environmental				
Temperature, Operating (°C)	5°C – 60°C	5°C-60°C	5°C-60°C	5°C-60°C
Shock, Operating 2ms Read/Write (Gs)	70/40Gs	70/40Gs	70/40Gs	70/40Gs
Shock, Nonoperating, (1ms/2ms) (Gs)	150/300	150/300	150/300	150/300
Physical				
Height (in/mm, max) ²	1.028in/26.1mm	1.028in/26.1mm	1.028in/26.1mm	1.028in/26.1mm
Width (in/mm, max) ²	4.010in/101.85mm	4.010in/101.85mm	4.010in/101.85mm	4.010in/101.85mm
Depth (in/mm, max) ²	5.787in/147.0mm	5.787in/147.0mm	5.787in/147.0mm	5.787in/147.0mm
Weight (g/lb)	716g/1.58lb	693g/1.53lb	649g/1.43lb	620g/1.37lb
Carton Unit Quantity	20	20	20	20
Cartons per Pallet/Cartons per Layer	40 / 8	40 / 8	40 / 8	40 / 8

¹ Self-Encrypting Drives (SED), Instant Secure Erase (ISE) drives, and FIPS 140-2 Validated drives are not available in all models or countries. May require TCG-compliant host or controller support.

² These base deck dimensions conform to the Small Form Factor Standard (SFF-8201) found at www.sffcommittee.org. For connector-related dimensions, see SFF-8223.

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