

# Nytró<sup>®</sup> 3000 SAS SSD Family

## Data Sheet

### Key Features and Benefits

- Dual-port and wide-port 12Gb/s SAS interface for the highest level of enterprise reliability, availability and scalability
- Industry-leading storage density range of capacities up to 15TB in a 2.5-inch form factor
- Ultra-fast performance of up to 2100MB/s that saturates both 12Gb/s links
- Endurance options to match the needs of a wide range of enterprise workloads
- SAS dual-port communication path for redundant, failover I/O communication to ensure data availability in critical production systems
- SAS wide-port provides a simple method to transfer over 2GB/s to a single device
- T10 Write Stream support offers optimal performance and endurance under multi-threaded workloads
- Power loss data protection circuit to help prevent loss of data in the event of unexpected power interruptions or hot swap
- Superior data security including Secure Downloads & Diagnostics, and Seagate Secure™ Self-Encrypting Drive (SED) and FIPS SED models<sup>1</sup>
- Advanced error correction for high level of data integrity

The Seagate<sup>®</sup> Nytró 3000 SSD family includes the next generation of high-capacity, high-performance SAS SSDs designed with multiple endurance offerings optimized for demanding enterprise applications and maximum TCO savings.

### Industry-Leading Performance up to 2100MB/s

The Nytró 3000 SSD family delivers ultra-fast, consistent and easily scalable performance that saturates dual 12Gb/s SAS bandwidth, providing an effective 24Gb/s wide-port interface along with legacy sign and dual-port dynamic configurations. By removing the storage bottleneck, it significantly improves overall system and application responsiveness and provides consistent low-latency data access, reliably accelerating enterprise and cloud storage systems.

### High-Capacity Solution with Multiple Endurance Offerings

Enterprise applications have different storage workload requirements for performance, endurance and cost. The optimal storage solution for databases or virtualization with a typically mixed read/write workload, for example, requires the highest random read/write IOPS, ultra-low latency and high endurance; content streaming applications with highly intensive read workloads, however, demand high sequential read throughput and high storage density at the lowest cost per gigabyte.

The Nytró 3000 SSD family offers an industry-leading range of capacities up to 15TB in a 2.5-inch form factor, to increase enterprise storage density in data centers. It also enables the maximum TCO savings by offering four endurance categories to match cost and performance requirements of all enterprise workloads.

### Enhanced Enterprise Reliability, Data Protection and Security

The Nytró 3000 SSD family leverages Seagate's decades of enterprise SAS expertise to deliver the highest levels of reliability, data integrity and data security for mission-critical enterprise applications.

The Nytró 3000 SSD family delivers best-in-class data protection and reliability by integrating full internal and external data path protection (T10 DIF), Seagate's advanced ECC algorithms, media life cycle management and other techniques for extending flash memory life. With advanced power-loss data protection, the Nytró 3000 SSD maintains high data integrity to help prevent loss of user data in the event of unexpected power interruptions.

The Nytró 3000 SSD family implements security features to prevent unauthorized access to a drive and safeguards stored data with three levels of security, including Secure Downloads & Diagnostics, TCG-compliant Self-Encrypting Drive and FIPS drive<sup>1</sup>.

<sup>1</sup> Self-Encrypting Drives (SED) and FIPS 140-2 Validated drives are not available in all models or countries. May require TCG-compliant host or controller support.



# Nytrio 3000 SAS SSD Family



Nytrio 3730 Specifications	Mainstream Endurance			
	3.2TB <sup>1</sup>	1.6TB <sup>1</sup>	800GB <sup>1</sup>	400GB <sup>1</sup>
Standard Model	XS3200ME70003	XS1600ME10003	XS800ME10003	XS400ME10003
Seagate Secure™ SED Model <sup>2</sup>	XS3200ME70013	XS1600ME10013	XS800ME10013	XS400ME10013
Seagate Secure FIPS 140-2 Model <sup>2</sup>	XS3200ME70023	XS1600ME10023	XS800ME10023	XS400ME10023
Interface	Dual 12Gb/s SAS	Dual 12Gb/s SAS	Dual 12Gb/s SAS	Dual 12Gb/s SAS
NAND Flash Type	3D eMLC	3D eMLC	3D eMLC	3D eMLC
Form Factor	2.5 in × 15mm	2.5 in × 7mm	2.5 in × 7mm	2.5 in × 7mm
<b>Performance at Max Power Limit</b>				
Sequential Read (MB/s) Sustained, 64KB <sup>3,4</sup>	2100	2100	2100	2100
Sequential Write (MB/s) Sustained, 64KB <sup>3,4</sup>	2000	2000	2000	1220
Random Read (IOPS) Sustained, 4KB <sup>3,4</sup>	400,000	400,000	400,000	345,000
Random Write (IOPS) Sustained, 4KB <sup>3,4</sup>	260,000	235,000	170,000	120,000
Random 30% Write (IOPS) Sustained, 4KB <sup>3,4</sup>	290,000	290,000	290,000	255,000
<b>Performance at 9W Power Limit</b>				
Sequential Read (MB/s) Sustained, 64KB <sup>3,4</sup>	2100	2100	2100	2100
Sequential Write (MB/s) Sustained, 64KB <sup>3,4</sup>	1260	1260	1260	1220
Random Read (IOPS) Sustained, 4KB <sup>3,4</sup>	375,000	375,000	375,000	345,000
Random Write (IOPS) Sustained, 4KB <sup>3,4</sup>	175,000	185,000	170,000	120,000
Random 30% Write (IOPS) Sustained, 4KB <sup>3,4</sup>	270,000	270,000	270,000	225,000
Average Latency (µs) <sup>9</sup>	85	85	85	85
<b>Endurance/Reliability</b>				
Lifetime Endurance (Drive Writes per Day)	10	10	10	10
Nonrecoverable Read Errors per Bits Read	1 per 10E18	1 per 10E18	1 per 10E18	1 per 10E18
Annualized Failure Rate (AFR)	0.35%	0.35%	0.35%	0.35%
<b>Power Management</b>				
+5/+12V Max Start Current (A)	0.44/0.47	0.44/0.42	0.44/0.41	0.44/0.41
Average Sleep Power (W)	2.5	2.5	2.5	2.5
Configurable Power Limit Settings (W)	7 to 14	7 to 14	7 to 14	7 to 14
Average Idle Power (W)	3	3	3	3
<b>Environmental</b>				
Temperature, Operating Internal (°C)	0 to 70	0 to 70	0 to 70	0 to 70
Temperature, Nonoperating (°C)	-40 to 75	-40 to 75	-40 to 75	-40 to 75
Temperature Change Rate/Hr, Max (°C)	20	20	20	20
Relative Humidity, Noncondensing (%)	5 to 95	5 to 95	5 to 95	5 to 95
Shock, 0.5ms (Gs)	1000	1000	1000	1000
Vibration, 10Hz to 500Hz (Grms)	1.98	1.98	1.98	1.98
<b>Physical</b>				
Height (in/mm, max) <sup>5</sup>	0.591/15.00	0.276/7.00	0.276/7.00	0.276/7.00
Width (in/mm, max) <sup>5</sup>	2.760/70.10	2.760/70.10	2.760/70.10	2.760/70.10
Depth (in/mm, max) <sup>5</sup>	3.955/100.45	3.955/100.45	3.955/100.45	3.955/100.45
Weight (lb/g)	0.3638/165	0.1874/85	0.1874/85	0.1764/80
Carton Unit Quantity	10	10	10	10
Cartons per Pallet	90	90	90	90
Cartons per Layer	9	9	9	9
<b>Warranty</b>				
Limited Warranty (years)	5	5	5	5

1 One gigabyte, or GB, equals one billion bytes and one terabyte, or TB, equals one trillion bytes when referring to drive capacity.  
 2 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.  
 3 Dual-port performance. All performance measured at queue depth of 32 per PHY at beginning of life. System application performance may vary based on SAS host and prior system workload.  
 4 Single-port performance: 1100MB/s of 64KB sequential reads and writes; 225,000 IOPS of 4KB random reads and writes  
 5 These base deck dimensions conform to the Small Form Factor Standard (SFF-8201) found at [www.sffcommittee.org](http://www.sffcommittee.org). For connector-related dimensions, see SFF-8223 (SAS models).





# Nytrio 3000 SAS SSD Family



Nytrio 3530 Specifications	Light Endurance				
	6.4TB <sup>1</sup>	3.2TB <sup>1</sup>	1.6TB <sup>1</sup>	800GB <sup>1</sup>	400GB <sup>1</sup>
Standard Model	XS6400LE70003	XS3200LE10003	XS1600LE10003	XS800LE10003	XS400LE10003
Seagate Secure™ SED Model <sup>2</sup>	XS6400LE70013	XS3200LE10013	XS1600LE10013	XS800LE10013	XS400LE10013
Seagate Secure FIPS 140-2 Model <sup>2</sup>	XS6400LE70023	—	XS1600LE10023	—	—
Interface	Dual 12Gb/s SAS	Dual 12Gb/s SAS	Dual 12Gb/s SAS	Dual 12Gb/s SAS	Dual 12Gb/s SAS
NAND Flash Type	3D eMLC	3D eMLC	3D eMLC	3D eMLC	3D eMLC
Form Factor	2.5 in × 15mm	2.5 in × 7mm	2.5 in × 7mm	2.5 in × 7mm	2.5 in × 7mm
<b>Performance at Max Power Limit</b>					
Sequential Read (MB/s) Sustained, 64KB <sup>3,4</sup>	2100	2100	2100	2100	2100
Sequential Write (MB/s) Sustained, 64KB <sup>3,4</sup>	2000	2000	2000	1710	810
Random Read (IOPS) Sustained, 4KB <sup>3,4</sup>	400,000	400,000	400,000	400,000	245,000
Random Write (IOPS) Sustained, 4KB <sup>3,4</sup>	140,000	150,000	145,000	95,000	45,000
Random 30% Write (IOPS) Sustained, 4KB <sup>3,4</sup>	270,000	270,000	290,000	250,000	120,000
<b>Performance at 9W Power Limit</b>					
Sequential Read (MB/s) Sustained, 64KB <sup>3,4</sup>	2100	2100	2100	2100	2100
Sequential Write (MB/s) Sustained, 64KB <sup>3,4</sup>	1260	1260	1260	1260	810
Random Read (IOPS) Sustained, 4KB <sup>3,4</sup>	375,000	375,000	375,000	375,000	245,000
Random Write (IOPS) Sustained, 4KB <sup>3,4</sup>	80,000	80,000	115,000	95,000	45,000
Random 30% Write (IOPS) Sustained, 4KB <sup>3,4</sup>	175,000	175,000	225,000	225,000	120,000
Average Latency (µs) <sup>3</sup>	85	85	85	85	85
<b>Endurance/Reliability</b>					
Lifetime Endurance (Drive Writes per Day)	3	3	3	3	3
Nonrecoverable Read Errors per Bits Read	1 per 10E18	1 per 10E18	1 per 10E18	1 per 10E18	1 per 10E18
Annualized Failure Rate (AFR)	0.35%	0.35%	0.35%	0.35%	0.35%
<b>Power Management</b>					
+5/+12V Max Start Current (A)	0.44/0.47	0.44/0.47	0.44/0.42	0.44/0.41	0.44/0.41
Average Sleep Power (W)	2.5	2.5	2.5	2.5	2.5
Configurable Power Limit Settings (W)	7 to 14	7 to 14	7 to 14	7 to 14	7 to 14
Average Idle Power (W)	3	3	3	3	3
<b>Environmental</b>					
Temperature, Operating Internal (°C)	0 to 70	0 to 70	0 to 70	0 to 70	0 to 70
Temperature, Nonoperating (°C)	-40 to 75	-40 to 75	-40 to 75	-40 to 75	-40 to 75
Temperature Change Rate/Hr, Max (°C)	20	20	20	20	20
Relative Humidity, Noncondensing (%)	5 to 95	5 to 95	5 to 95	5 to 95	5 to 95
Shock, 0.5ms (Gs)	1000	1000	1000	1000	1000
Vibration, 10Hz to 500Hz (Grms)	1.98	1.98	1.98	1.98	1.98
<b>Physical</b>					
Height (in/mm, max) <sup>5</sup>	0.591/15.00	0.276/7.00	0.276/7.00	0.276/7.00	0.276/7.00
Width (in/mm, max) <sup>5</sup>	2.760/70.10	2.760/70.10	2.760/70.10	2.760/70.10	2.760/70.10
Depth (in/mm, max) <sup>5</sup>	3.955/100.45	3.955/100.45	3.955/100.45	3.955/100.45	3.955/100.45
Weight (lb/g)	0.3638/165	0.1874/85	0.1874/85	0.1874/85	0.1764/80
Carton Unit Quantity	10	10	10	10	10
Cartons per Pallet	90	90	90	90	90
Cartons per Layer	9	9	9	9	9
<b>Warranty</b>					
Limited Warranty (years)	5	5	5	5	5

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

2 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.

3 Dual-port performance. All performance measured at queue depth of 32 per PHY at beginning of life. System application performance may vary based on SAS host and prior system workload.

4 Single-port performance: 1100MB/s of 64KB sequential reads and writes; 225,000 IOPS of 4KB random reads and writes

5 These base deck dimensions conform to the Small Form Factor Standard (SFF-8201) found at [www.sffcommittee.org](http://www.sffcommittee.org). For connector-related dimensions, see SFF-8223 (SAS models).





# Nytrio 3000 SAS SSD Family



Nytrio 3330 Specifications	Scaled Endurance				
	15.36TB <sup>1</sup>	7.68TB <sup>1</sup>	3.84TB <sup>1</sup>	1.92TB <sup>1</sup>	960GB <sup>1</sup>
Standard Model	XS15360SE70103	XS7680SE70103	XS3840SE10103	XS1920SE10103	XS960SE10003
Seagate Secure™ SED Model <sup>2</sup>	XS15360SE70113	XS7680SE70113	XS3840SE10113	XS1920SE10113	XS960SE10013
Seagate Secure FIPS 140-2 Model <sup>2</sup>	—	—	—	XS1920SE10123	—
Interface	Dual 12Gb/s SAS	Dual 12Gb/s SAS	Dual 12Gb/s SAS	Dual 12Gb/s SAS	Dual 12Gb/s SAS
NAND Flash Type	3D eTLC	3D eTLC	3D eTLC	3D eTLC	3D eTLC
Form Factor	2.5 in × 15mm	2.5 in × 15mm	2.5 in × 7mm	2.5 in × 7mm	2.5 in × 7mm
<b>Performance at Max Power Limit</b>					
Sequential Read (MB/s) Sustained, 64KB <sup>3,4</sup>	2100	2100	2100	2100	2100
Sequential Write (MB/s) Sustained, 64KB <sup>3,4</sup>	1690	1850	1720	1200	640
Random Read (IOPS) Sustained, 4KB <sup>3,4</sup>	260,000	400,000	400,000	375,000	245,000
Random Write (IOPS) Sustained, 4KB <sup>3,4</sup>	60,000	115,000	115,000	70,000	35,000
Random 30% Write (IOPS) Sustained, 4KB <sup>3,4</sup>	150,000	230,000	230,000	185,000	95,000
<b>Performance at 9W Power Limit</b>					
Sequential Read (MB/s) Sustained, 64KB <sup>3,4</sup>	2100	2100	2100	2100	2100
Sequential Write (MB/s) Sustained, 64KB <sup>3,4</sup>	990	990	990	990	650
Random Read (IOPS) Sustained, 4KB <sup>3,4</sup>	260,000	275,000	275,000	275,000	245,000
Random Write (IOPS) Sustained, 4KB <sup>3,4</sup>	45,000	55,000	55,000	55,000	35,000
Random 30% Write (IOPS) Sustained, 4KB <sup>3,4</sup>	105,000	125,000	125,000	125,000	95,000
Average Latency (µs) <sup>3</sup>	120	120	120	120	120
<b>Endurance/Reliability</b>					
Lifetime Endurance (Drive Writes per Day)	1	1	1	1	1
Nonrecoverable Read Errors per Bits Read	1 per 10E18	1 per 10E18	1 per 10E18	1 per 10E18	1 per 10E18
Annualized Failure Rate (AFR)	0.35%	0.35%	0.35%	0.35%	0.35%
<b>Power Management</b>					
+5/+12V Max Start Current (A)	0.44/0.47	0.44/0.47	0.44/0.42	0.44/0.41	0.44/0.41
Average Sleep Power (W)	2.5	2.5	2.5	2.5	2.5
Configurable Power Limit Settings (W)	7 to 14	7 to 14	7 to 14	7 to 14	7 to 14
Average Idle Power (W)	3	3	3	3	3
<b>Environmental</b>					
Temperature, Operating Internal (°C)	0 to 70	0 to 70	0 to 70	0 to 70	0 to 70
Temperature, Nonoperating (°C)	-40 to 75	-40 to 75	-40 to 75	-40 to 75	-40 to 75
Temperature Change Rate/Hr, Max (°C)	20	20	20	20	20
Relative Humidity, Noncondensing (%)	5 to 95	5 to 95	5 to 95	5 to 95	5 to 95
Shock, 0.5ms (Gs)	1000	1000	1000	1000	1000
Vibration, 10Hz to 500Hz (Grms)	1.98	1.98	1.98	1.98	1.98
<b>Physical</b>					
Height (in/mm, max) <sup>5</sup>	0.591/15.00	0.591/15.00	0.276/7.00	0.276/7.00	0.276/7.00
Width (in/mm, max) <sup>5</sup>	2.760/70.10	2.760/70.10	2.760/70.10	2.760/70.10	2.760/70.10
Depth (in/mm, max) <sup>5</sup>	3.955/100.45	3.955/100.45	3.955/100.45	3.955/100.45	3.955/100.45
Weight (lb/g)	0.3638/165	0.3638/165	0.1874/85	0.1764/80	0.1764/80
Carton Unit Quantity	10	10	10	10	10
Cartons per Pallet	90	90	90	90	90
Cartons per Layer	9	9	9	9	9
<b>Warranty</b>					
Limited Warranty (years)	5	5	5	5	5

1 One gigabyte, or GB, equals one billion bytes and one terabyte, or TB, equals one trillion bytes when referring to drive capacity.  
 2 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.  
 3 Dual-port performance. All performance measured at queue depth of 32 per PHY at beginning of life. System application performance may vary based on SAS host and prior system workload.  
 4 Single-port performance: 1100MB/s of 64KB sequential reads and writes; 225,000 IOPS of 4KB random reads and writes  
 5 These base deck dimensions conform to the Small Form Factor Standard (SFF-8201) found at [www.sffcommittee.org](http://www.sffcommittee.org). For connector-related dimensions, see SFF-8223 (SAS models).





# Nytrio 3000 SAS SSD Family



Nytrio 3130 Specifications	Tunable Endurance <sup>1</sup>		
	15.36TB <sup>2</sup>	7.68TB <sup>2</sup>	3.84TB <sup>2</sup>
Standard Model	XS15360TE70003	XS7680TE70003	XS3840TE10003
Seagate Secure™ SED Model <sup>3</sup>	XS15360TE70013	XS7680TE70013	XS3840TE10013
Seagate Secure FIPS 140-2 Model <sup>3</sup>	XS15360TE70023	XS7680TE70023	XS3840TE10023
Interface	Dual 12Gb/s SAS	Dual 12Gb/s SAS	Dual 12Gb/s SAS
NAND Flash Type	3D eTLC	3D eTLC	3D eTLC
Form Factor	2.5 in × 15mm	2.5 in × 15mm	2.5 in × 7mm
<b>Performance at Max Power Limit</b>			
Sequential Read (MB/s) Sustained, 64KB <sup>4,5</sup>	2100	2100	2100
Sequential Write (MB/s) Sustained, 64KB <sup>4,5</sup>	1780	1850	1700
Random Read (IOPS) Sustained, 4KB <sup>4,5</sup>	260,000	400,000	400,000
Random Write (IOPS) Sustained, 4KB <sup>4,5</sup>	30,000	70,000	60,000
Random 30% Write (IOPS) Sustained, 4KB <sup>4,5</sup>	90,000	170,000	150,000
<b>Performance at 9W Power Limit</b>			
Sequential Read (MB/s) Sustained, 64KB <sup>4,5</sup>	2100	2100	2100
Sequential Write (MB/s) Sustained, 64KB <sup>4,5</sup>	990	990	990
Random Read (IOPS) Sustained, 4KB <sup>4,5</sup>	260,000	275,000	275,000
Random Write (IOPS) Sustained, 4KB <sup>4,5</sup>	15,000	30,000	30,000
Random 30% Write (IOPS) Sustained, 4KB <sup>4,5</sup>	45,000	80,000	80,000
Average Latency (µs) <sup>4</sup>	120	120	120
<b>Endurance/Reliability</b>			
Lifetime Endurance (Drive Writes per Day)	0.25	0.5	0.5
Nonrecoverable Read Errors per Bits Read	1 per 10E18	1 per 10E18	1 per 10E18
Annualized Failure Rate (AFR)	0.35%	0.35%	0.35%
<b>Power Management</b>			
+5/+12V Max Start Current (A)	0.44/0.47	0.44/0.47	0.44/0.42
Average Sleep Power (W)	2.5	2.5	2.5
Configurable Power Limit Settings (W)	7 to 14	7 to 14	7 to 14
Average Idle Power (W)	3	3	3
<b>Environmental</b>			
Temperature, Operating Internal (°C)	0 to 70	0 to 70	0 to 70
Temperature, Nonoperating (°C)	-40 to 75	-40 to 75	-40 to 75
Temperature Change Rate/Hr, Max (°C)	20	20	20
Relative Humidity, Noncondensing (%)	5 to 95	5 to 95	5 to 95
Shock, 0.5ms (Gs)	1000	1000	1000
Vibration, 10Hz to 500Hz (Grms)	1.98	1.98	1.98
<b>Physical</b>			
Height (in/mm, max) <sup>6</sup>	0.591/15.00	0.591/15.00	0.276/7.00
Width (in/mm, max) <sup>6</sup>	2.760/70.10	2.760/70.10	2.760/70.10
Depth (in/mm, max) <sup>6</sup>	3.955/100.45	3.955/100.45	3.955/100.45
Weight (lb/g)	0.3638/165	0.3638/165	0.1874/85
Carton Unit Quantity	10	10	10
Cartons per Pallet	90	90	90
Cartons per Layer	9	9	9
<b>Warranty</b>			
Limited Warranty (years)	5	5	5

1 JEDEC 218 Drive Writes per Day (DWPD) endurance adjustable by modifying user capacity.

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

3 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.

4 Dual-port performance. All performance measured at queue depth of 32 per PHY at beginning of life. System application performance may vary based on SAS host and prior system workload.

5 Single-port performance: 1100MB/s of 64KB sequential reads and writes; 225,000 IOPS of 4KB random reads and writes

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

For connector-related dimensions, see SFF-8223 (SAS models).



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