

Enterprise Capacity 2.5 HDD

Data Sheet

Design Small and Deliver BIG - 2.5-Inch Nearline Drive

- Up to 2TB capacity in 15mm z-height, 2.5-inch form factor for space-constrained data centres
- Designed for high-density storage solutions requiring environmentally sound low power consumption and low weight for maximum storage efficiency
- Choose 12Gb/s SAS for high data integrity, scalability and fast data access or SATA 6Gb/s for economical nearline performance
- Third-generation, enterprise-class reliability for 24x7 environmental robustness
- Highest efficiency with over 50% improvement in watts/TB, and 18% sequential performance improvement compared to the previous generation
- Improved rotational vibration tolerance and head micro-actuation maximises system availability and performance
- Lowest enterprise operating power and enhanced PowerChoice™ options for additional power savings during idle periods
- Protect data where it lives - on the drive - by choosing from government-grade SED FIPS 140-2 option or SED models with Seagate Instant Secure Erase technology for easy and cost-effective drive disposal^{1,2}

Best-Fit Applications

- Storage-hungry business applications
- Storage area networks (SAN) and network attached storage (NAS)
- Maximum-capacity entry-level servers and blade servers
- Rich media content storage
- Enterprise backup and restore - D2D, virtual tape
- Cloud computing



¹ 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. Instant Secure Erase (ISE) functionality meets the ISO/IEC 27040 and NIST 800-88 guidelines for complete and authoritative drive sanitization.

² FIPS in review.



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Specifications	12Gb/s SAS			
	4K Native		5xx Emulation	
	2TB ¹	1TB ¹	2TB ¹	1TB ¹
Standard Model Number	ST2000NX0263	ST1000NX0323	ST2000NX0273	ST1000NX0333
SED Model Number	ST2000NX0323 ²	ST1000NX0363 ²	ST2000NX0343 ²	ST1000NX0373 ²
SED-FIPS Model Number	ST2000NX0333 ^{2,3}	—	ST2000NX0353 ^{2,3}	—
Reliability/Data Integrity				
Mean Time Between Failures (MTBF, hours)	2.0 million	2.0 million	2.0 million	2.0 million
Reliability Rating @ Full 24x7 operation (AFR)	0.44%	0.44%	0.44%	0.44%
Non-recoverable Read Errors per Bits Read	1 sector per 10 ¹⁵	1 sector per 10 ¹⁵	1 sector per 10 ¹⁵	1 sector per 10 ¹⁵
Power-On Hours per Year	8,760	8,760	8,760	8,760
Bytes per Sector	4K	4K	512, 520, 528	512, 520, 528
Limited Warranty (years)	5	5	5	5
Performance				
Spindle Speed (RPM)	7,200	7,200	7,200	7,200
Cache Buffer, Multisegmented (MB)	128	128	128	128
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 (MB/s)	136	136	136	136
Average Latency (ms)	4.16	4.16	4.16	4.16
Interface Ports	Dual	Dual	Dual	Dual
RV Tolerance (rad/s ² to 1,800Hz)	16	16	16	16
Power Management				
Idling Power (W)	3.53	3.29	3.53	3.29
Typical Operating, Random Read (W)	6.02	5.9	6.02	5.9
PowerChoice™ Technology (Standby) (W)	1.52	1.52	1.52	1.52
Power Supply Requirements	+12V and +5V	+12V and +5V	+12V and +5V	+12V and +5V
Environmental				
Temperature, Operating (°C)	5 to 55	5 to 55	5 to 55	5 to 55
Vibration, Operating, 5Hz to 500Hz (Gs)	0.5	0.5	0.5	0.5
Vibration, Non-operating, 5Hz to 500Hz (Gs)	3.0	3.0	3.0	3.0
Shock, Operating, 2ms (Gs)	25	25	25	25
Shock, Non-operating, 2 ms (Gs)	400	400	400	400
Acoustics, typical - idling (bels)	2.8	2.8	2.8	2.8
Acoustics, typical - seek (bels)	3.2	3.2	3.2	3.2
Physical				
Height (in/mm) ⁴	0.591/15.00	0.591/15.00	0.591/15.00	0.591/15.00
Width (in/mm) ⁴	2.760/70.10	2.760/70.10	2.760/70.10	2.760/70.10
Depth (in/mm) ⁴	3.955/100.45	3.955/100.45	3.955/100.45	3.955/100.45
Weight (lb/kg)	0.437/0.198	0.419/0.190	0.437/0.198	0.419/0.190
Carton Unit Quantity	30	30	30	30
Cartons per Pallet	50	50	50	50
Cartons per Layer	10	10	10	10

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

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⁴ 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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Specifications	SATA 6Gb/s			
	4K Native		5xx Emulation	
	2TB ¹	1TB ¹	2TB ¹	1TB ¹
Standard Model Number	ST2000NX0243	ST1000NX0303	ST2000NX0253	ST1000NX0313
SED Model Number	ST2000NX0283 ²	ST1000NX0343 ²	ST2000NX0303 ²	ST1000NX0353 ²
Features				
PowerChoice™ on-demand power option	Yes	Yes	Yes	Yes
Low Halogen	Yes	Yes	Yes	Yes
RAID Rebuild™	Yes	Yes	Yes	Yes
Reliability/Data Integrity				
Mean Time Between Failures (MTBF, hours)	2.0 million	2.0 million	2.0 million	2.0 million
Reliability Rating @ Full 24x7 operation (AFR)	0.44%	0.44%	0.44%	0.44%
Non-recoverable Read Errors per Bits Read	1 sector per 10 ¹⁵	1 sector per 10 ¹⁵	1 sector per 10 ¹⁵	1 sector per 10 ¹⁵
Power-On Hours per Year	8,760	8,760	8,760	8,760
Bytes per Sector	4K	4K	512	512
Limited Warranty (years)	5	5	5	5
Performance				
Spindle Speed (RPM)	7,200	7,200	7,200	7,200
Cache Buffer, Multisegmented (MB)	128	128	128	128
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 (MB/s)	136	136	136	136
Average Latency (ms)	4.16	4.16	4.16	4.16
Interface Ports	Single	Single	Single	Single
RV Tolerance (rad/s ² to 1,800Hz)	16	16	16	16
Power Management				
Idling Power (W)	3.87	3.51	3.87	3.51
Typical Operating, Random Read (W)	5.22	4.74	5.22	4.74
PowerChoice™ Technology (Standby) (W)	1.14	1.14	1.14	1.14
Power Supply Requirements	+12V and +5V	+12V and +5V	+12V and +5V	+12V and +5V
Environmental				
Temperature, Operating (°C)	5 to 55	5 to 55	5 to 55	5 to 55
Vibration, Operating, 5Hz to 500Hz (Gs)	0.5	0.5	0.5	0.5
Vibration, Non-operating, 5Hz to 500Hz (Gs)	3.0	3.0	3.0	3.0
Shock, Operating, 2ms (Gs)	25	25	25	25
Shock, Non-operating, 2 ms (Gs)	400	400	400	400
Acoustics, typical - idling (bels)	2.8	2.8	2.8	2.8
Acoustics, typical - seek (bels)	3.2	3.2	3.2	3.2
Physical				
Height (in/mm) ³	0.591/15.00	0.591/15.00	0.591/15.00	0.591/15.00
Width (in/mm) ³	2.760/70.10	2.760/70.10	2.760/70.10	2.760/70.10
Depth (in/mm) ³	3.955/100.45	3.955/100.45	3.955/100.45	3.955/100.45
Weight (lb/kg)	0.437/0.198	0.419/0.190	0.437/0.198	0.419/0.190
Carton Unit Quantity	30	30	30	30
Cartons per Pallet	50	50	50	50
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