



## DATA SHEET

Trusted. Efficient. Versatile.  
**Exos 7E10**



The Seagate® Exos™ 7E10 enterprise hard drive confidently stores up to 10 TB of data without sacrificing performance. The secure, high-capacity, high-performance drives are optimised for demanding enterprise bulk data applications.



### Best-Fit Applications

- Hyperscale applications/cloud data centres
- Massive scale-out data centres
- 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
- Centralised surveillance

### Enterprise Drive for Bulk Data Applications

Exos 7E10 hard drives support up to 10 TB per drive,<sup>1</sup> offering bulk data storage for data centre infrastructures requiring a highly reliable enterprise hard drive. Exos 7E10 provides cost-effective, reliable access to unstructured data. The Exos 7E10 drive helps to catalyse the datasphere, enabling data centre 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 7E10 drives are backed by a 2 million hour MTBF rating and support workloads of 550 TB 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 7E10 helps ensure consistent performance in replicated and RAID multi-drive systems.

### High Performance for Mainstream Data Centre Applications

Meet your storage workload requirements in the most efficient and cost-effective data centre footprint on the market today. The Exos 7E10 delivers easy integration into bulk storage systems with 12 Gb/s SAS and SATA 6 Gb/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 7E10 prevents unauthorised 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-resistant hard drive.<sup>2</sup> Seagate Secure™ drives simplify drive repurposing and disposal, help protect data-at-rest, and comply with corporate and federal data security mandates.

<sup>1</sup> Seagate recommends validating your configuration with your HBA/RAID controller manufacturer to ensure full capacity capabilities.

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





| Specifications                                                        | 512n SATA          |                    |                    |
|-----------------------------------------------------------------------|--------------------|--------------------|--------------------|
| Capacity                                                              | 6 TB               | 4 TB               | 2 TB               |
| Standard                                                              | ST6000NM000B       | ST4000NM000B       | ST2000NM000B       |
| PowerBalance™ Model **                                                | —                  | —                  | —                  |
| Seagate Secure™ SED Model <sup>1</sup> **                             | —                  | ST4000NM006B       | ST2000NM006B       |
| Seagate Secure SED-FIPS 140-3 Model <sup>1</sup> **                   | —                  | ST4000NM012B       | —                  |
| **not all models will be generally offered as standard configurations | —                  | —                  | —                  |
| Features                                                              |                    |                    |                    |
| Protection Information (T10 DIF)                                      | —                  | —                  | —                  |
| SuperParity                                                           | Yes                | Yes                | Yes                |
| Low Halogen                                                           | Yes                | Yes                | Yes                |
| PowerChoice™ Technology                                               | Yes                | Yes                | Yes                |
| PowerBalance Technology                                               | Yes                | Yes                | Yes                |
| Cache, Multi-segmented (MB)                                           | 256                | 256                | 256                |
| Advanced Write Caching (8M internal NOR flash)                        | Yes                | Yes                | Yes                |
| Reliability/Data Integrity                                            |                    |                    |                    |
| Vibration, Non-operating: 10 Hz to 500 Hz (Grms)                      | 5                  | 5                  | 5                  |
| Mean Time Between Failures (MTBF, hours)                              | 2,000,000          | 2,000,000          | 2,000,000          |
| Reliability Rating @ Full 24x7 Operation (AFR)                        | 0.44%              | 0.44%              | 0.44%              |
| Non-recoverable Read Errors per Bits Read                             | 1 sector per 10E15 | 1 sector per 10E15 | 1 sector per 10E15 |
| Power-On Hours per Year                                               | 8,760              | 8,760              | 8,760              |
| Bytes per Sector                                                      | 512                | 512                | 512                |
| Warranty, Limited (years)                                             | 5                  | 5                  | 5                  |
| Performance                                                           |                    |                    |                    |
| Spindle Speed (RPM)                                                   | 7,200              | 7,200              | 7,200              |
| Interface Access Speed (Gb/s)                                         | 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            |
| Average Latency (ms)                                                  | 4.16               | 4.16               | 4.16               |
| Interface Ports                                                       | Single             | Single             | Single             |
| Rotational Vibration @ 1,500 Hz (rad/s²)                              | 12.5               | 12.5               | 12.5               |
| Power Consumption                                                     |                    |                    |                    |
| Idle Power, Average (W)                                               | 7.06               | 6.04               | 5.16               |
| Typical Operating, Random Read (W)                                    | 11.03              | 10.32              | 9.4                |
| Power Supply Requirements                                             | +12 V and +5 V     | +12 V and +5 V     | +12 V and +5 V     |
| Environmental                                                         |                    |                    |                    |
| Temperature, Operating (°C) Drive Reported                            | 5 ~ 60             | 5 ~ 60             | 5 ~ 60             |
| Shock, Operating 2 ms Read/Write (Gs)                                 | 70/40 Gs           | 70/40 Gs           | 70/40 Gs           |
| Shock, Non-operating, (1 ms/2 ms) (Gs)                                | 150/300            | 150/300            | 150/300            |
| Physical                                                              |                    |                    |                    |
| Height (in/mm, max) <sup>2</sup>                                      | 1.028 in/26.11 mm  | 1.028 in/26.11 mm  | 1.028 in/26.11 mm  |
| Width (in/mm, max) <sup>2</sup>                                       | 4.01 in/101.85 mm  | 4.01 in/101.85 mm  | 4.01 in/101.85 mm  |
| Depth (in/mm, max) <sup>2</sup>                                       | 5.787 in/147 mm    | 5.787 in/147 mm    | 5.787 in/147 mm    |
| Weight (lb/g)                                                         | 716 g/1.58 lb      | 650 g/1.43 lb      | 620 g/1.37 lb      |
| Carton Unit Quantity                                                  | 20                 | 20                 | 20                 |
| Cartons per Pallet / Cartons per Layer                                | 40/8               | 40/8               | 40/8               |

<sup>1</sup> Self-Encrypting Drives (SED), Instant Secure Erase (ISE) drives, and FIPS 140-3 Validated drives are not available in all models or countries. May require TCG-compliant host or controller support.

<sup>2</sup> 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.



| Specifications                                                        | 512n SAS           |                                |                                |
|-----------------------------------------------------------------------|--------------------|--------------------------------|--------------------------------|
| Capacity                                                              | 6 TB               | 4 TB                           | 2 TB                           |
| Standard                                                              | ST6000NM001B       | ST4000NM001B                   | ST2000NM001B                   |
| PowerBalance™ Model **                                                | —                  | —                              | —                              |
| Seagate Secure™ SED Model <sup>1</sup> **                             | —                  | ST4000NM007B                   | ST2000NM007B                   |
| Seagate Secure SED-FIPS 140-3 Model <sup>1</sup> **                   | —                  | ST4000NM013B                   | —                              |
| **not all models will be generally offered as standard configurations | —                  | —                              | —                              |
| Features                                                              |                    |                                |                                |
| Protection Information (T10 DIF)                                      | Yes                | Yes                            | Yes                            |
| SuperParity                                                           | Yes                | Yes                            | Yes                            |
| Low Halogen                                                           | Yes                | Yes                            | Yes                            |
| PowerChoice™ Technology                                               | Yes                | Yes                            | Yes                            |
| PowerBalance Technology                                               | Yes                | Yes                            | Yes                            |
| Cache, Multi-segmented (MB)                                           | 256                | 256                            | 256                            |
| Advanced Write Caching (8M internal NOR flash)                        | Yes                | Yes                            | Yes                            |
| Reliability/Data Integrity                                            |                    |                                |                                |
| Vibration, Non-operating: 10 Hz to 500 Hz (Grms)                      | 2.27               | 2.27                           | 2.27                           |
| Mean Time Between Failures (MTBF, hours)                              | 2,000,000          | 2,000,000                      | 2,000,000                      |
| Reliability Rating @ Full 24x7 Operation (AFR)                        | 0.44%              | 0.44%                          | 0.44%                          |
| Non-recoverable Read Errors per Bits Read                             | 1 sector per 10E15 | 1 sector per 10E15             | 1 sector per 10E15             |
| Power-On Hours per Year                                               | 8,760              | 8,760                          | 8,760                          |
| Bytes per Sector                                                      | 512                | 512                            | 512                            |
| Warranty, Limited (years)                                             | 5                  | 5                              | 5                              |
| Performance                                                           |                    |                                |                                |
| Spindle Speed (RPM)                                                   | 7,200              | 7,200                          | 7,200                          |
| 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 |
| Max. Sustained Transfer Rate OD                                       | 236MB/s            | 236MB/s                        | 236MB/s                        |
| Average Latency (ms)                                                  | 4.16               | 4.16                           | 4.16                           |
| Interface Ports                                                       | Dual               | Dual                           | Dual                           |
| Rotational Vibration @ 1,500 Hz (rad/s²)                              | 12.5               | 12.5                           | 12.5                           |
| Power Consumption                                                     |                    |                                |                                |
| Idle Power, Average (W)                                               | 7.24               | 6.59                           | 5.9                            |
| Typical Operating, Random Read (W)                                    | 11.34              | 10.8                           | 10.3                           |
| Power Supply Requirements                                             | +12 V and +5 V     | +12 V and +5 V                 | +12 V and +5 V                 |
| Environmental                                                         |                    |                                |                                |
| Temperature, Operating (°C) Drive Reported                            | 5 ~ 60             | 5 ~ 60                         | 5 ~ 60                         |
| Shock, Operating 2 ms Read/Write (Gs)                                 | 70/40 Gs           | 70/40 Gs                       | 70/40 Gs                       |
| Shock, Non-operating, (1 ms/2 ms) (Gs)                                | 150/300            | 150/300                        | 150/300                        |
| Physical                                                              |                    |                                |                                |
| Height (in/mm, max) <sup>2</sup>                                      | 1.028 in/26.11 mm  | 1.028 in/26.11 mm              | 1.028 in/26.11 mm              |
| Width (in/mm, max) <sup>2</sup>                                       | 4.01 in/101.85 mm  | 4.01 in/101.85 mm              | 4.01 in/101.85 mm              |
| Depth (in/mm, max) <sup>2</sup>                                       | 5.787 in/147 mm    | 5.787 in/147 mm                | 5.787 in/147 mm                |
| Weight (lb/g)                                                         | 716 g/1.58 lb      | 620 g/1.37 lb                  | 620 g/1.37 lb                  |
| Carton Unit Quantity                                                  | 20                 | 20                             | 20                             |
| Cartons per Pallet / Cartons per Layer                                | 40/8               | 40/8                           | 40/8                           |

<sup>1</sup> Self-Encrypting Drives (SED), Instant Secure Erase (ISE) drives, and FIPS 140-3 Validated drives are not available in all models or countries. May require TCG-compliant host or controller support.

<sup>2</sup> 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.



| Specifications                                                        | 512e/4KN (FastFormat™) SATA |                    |                    |                    |                    |
|-----------------------------------------------------------------------|-----------------------------|--------------------|--------------------|--------------------|--------------------|
| Capacity                                                              | 10 TB                       | 8 TB               | 6 TB               | 4 TB               | 2 TB               |
| Standard                                                              | ST10000NM017B               | ST8000NM017B       | ST6000NM019B       | ST4000NM024B       | ST2000NM017B       |
| PowerBalance™ Model **                                                | ST10000NM025B               | ST8000NM025B       | ST6000NM027B       | —                  | —                  |
| Seagate Secure™ SED Model <sup>1</sup> **                             | ST10000NM019B               | ST8000NM019B       | ST6000NM021B       | ST4000NM026B       | ST2000NM019B       |
| Seagate Secure SED-FIPS 140-3 Model <sup>1</sup> **                   | ST10000NM021B               | ST8000NM021B       | ST6000NM023B       | ST4000NM028B       | —                  |
| **not all models will be generally offered as standard configurations | —                           | —                  | —                  | —                  | —                  |
| Features                                                              |                             |                    |                    |                    |                    |
| Protection Information (T10 DIF)                                      | —                           | —                  | —                  | —                  | —                  |
| SuperParity                                                           | Yes                         | Yes                | Yes                | Yes                | Yes                |
| Low Halogen                                                           | Yes                         | Yes                | Yes                | Yes                | Yes                |
| PowerChoice™ Technology                                               | Yes                         | Yes                | Yes                | Yes                | Yes                |
| PowerBalance Technology                                               | Yes                         | Yes                | Yes                | Yes                | Yes                |
| Cache, Multi-segmented (MB)                                           | 256                         | 256                | 256                | 256                | 256                |
| Advanced Write Caching (8M internal NOR flash)                        | Yes                         | Yes                | Yes                | Yes                | Yes                |
| Reliability/Data Integrity                                            |                             |                    |                    |                    |                    |
| Vibration, Non-operating: 10 Hz to 500 Hz (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 24x7 Operation (AFR)                        | 0.44%                       | 0.44%              | 0.44%              | 0.44%              | 0.44%              |
| Non-recoverable 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                                               | 8,760                       | 8,760              | 8,760              | 8,760              | 8,760              |
| Bytes per Sector                                                      | 512                         | 512                | 512                | 512                | 512                |
| Warranty, Limited (years)                                             | 5                           | 5                  | 5                  | 5                  | 5                  |
| Performance                                                           |                             |                    |                    |                    |                    |
| Spindle Speed (RPM)                                                   | 7,200                       | 7,200              | 7,200              | 7,200              | 7,200              |
| 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                                       | 263MB/s                     | 255MB/s            | 250MB/s            | 250MB/s            | 226MB/s            |
| Average Latency (ms)                                                  | 4.16                        | 4.16               | 4.16               | 4.16               | 4.16               |
| Interface Ports                                                       | Single                      | Single             | Single             | Single             | Single             |
| Rotational Vibration @ 1,500 Hz (rad/s <sup>2</sup> )                 | 12.5                        | 12.5               | 12.5               | 12.5               | 12.5               |
| Power Consumption                                                     |                             |                    |                    |                    |                    |
| Idle Power, Average (W)                                               | 7.8                         | 7.06               | 7.06               | 5.16               | 5.16               |
| Typical Operating, Random Read (W)                                    | 11.8                        | 11.03              | 11.03              | 9.4                | 9.4                |
| Power Supply Requirements                                             | +12 V and +5 V              | +12 V and +5 V     | +12 V and +5 V     | +12 V and +5 V     | +12 V and +5 V     |
| Environmental                                                         |                             |                    |                    |                    |                    |
| Temperature, Operating (°C) Drive Reported                            | 5 ~ 60                      | 5 ~ 60             | 5 ~ 60             | 5 ~ 60             | 5 ~ 60             |
| Shock, Operating 2 ms Read/Write (Gs)                                 | 70/40 Gs                    | 70/40 Gs           | 70/40 Gs           | 70/40 Gs           | 70/40 Gs           |
| Shock, Non-operating, (1 ms/2 ms) (Gs)                                | 150/300                     | 150/300            | 150/300            | 150/300            | 150/300            |
| Physical                                                              |                             |                    |                    |                    |                    |
| Height (in/mm, max) <sup>2</sup>                                      | 1.028 in/26.11 mm           | 1.028 in/26.11 mm  | 1.028 in/26.11 mm  | 1.028 in/26.11 mm  | 1.028 in/26.11 mm  |
| Width (in/mm, max) <sup>2</sup>                                       | 4.01 in/101.85 mm           | 4.01 in/101.85 mm  | 4.01 in/101.85 mm  | 4.01 in/101.85 mm  | 4.01 in/101.85 mm  |
| Depth (in/mm, max) <sup>2</sup>                                       | 5.787 in/147 mm             | 5.787 in/147 mm    | 5.787 in/147 mm    | 5.787 in/147 mm    | 5.787 in/147 mm    |
| Weight (lb/g)                                                         | 720 g/1.59 lb               | 716 g/1.58 lb      | 716 g/1.58 lb      | 620 g/1.37 lb      | 620 g/1.37 lb      |
| Carton Unit Quantity                                                  | 20                          | 20                 | 20                 | 20                 | 20                 |
| Cartons per Pallet / Cartons per Layer                                | 40/8                        | 40/8               | 40/8               | 40/8               | 40/8               |

<sup>1</sup> Self-Encrypting Drives (SED), Instant Secure Erase (ISE) drives, and FIPS 140-3 Validated drives are not available in all models or countries. May require TCG-compliant host or controller support.

<sup>2</sup> 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.



| Specifications                                                        | 512e/4KN (FastFormat) SAS      |                                |                                |                    |                    |
|-----------------------------------------------------------------------|--------------------------------|--------------------------------|--------------------------------|--------------------|--------------------|
| Capacity                                                              | 10 TB                          | 8 TB                           | 6 TB                           | 4 TB               | 2 TB               |
| Standard                                                              | ST10000NM018B                  | ST8000NM018B                   | ST6000NM020B                   | ST4000NM025B       | ST2000NM018B       |
| PowerBalance™ Model **                                                | —                              | —                              | —                              | —                  | —                  |
| Seagate Secure™ SED Model <sup>1</sup> **                             | ST10000NM020B                  | ST8000NM020B                   | ST6000NM022B                   | ST4000NM027B       | ST2000NM020B       |
| Seagate Secure SED-FIPS 140-3 Model <sup>1</sup> **                   | ST10000NM022B                  | ST8000NM022B                   | ST6000NM024B                   | ST4000NM029B       | —                  |
| **not all models will be generally offered as standard configurations | —                              | —                              | —                              | —                  | —                  |
| Features                                                              |                                |                                |                                |                    |                    |
| Protection Information (T10 DIF)                                      | Yes                            | Yes                            | Yes                            | Yes                | Yes                |
| SuperParity                                                           | Yes                            | Yes                            | Yes                            | Yes                | Yes                |
| Low Halogen                                                           | Yes                            | Yes                            | Yes                            | Yes                | Yes                |
| PowerChoice™ Technology                                               | Yes                            | Yes                            | Yes                            | Yes                | Yes                |
| PowerBalance Technology                                               | Yes                            | Yes                            | Yes                            | Yes                | Yes                |
| Cache, Multi-segmented (MB)                                           | 256                            | 256                            | 256                            | 256                | 256                |
| Advanced Write Caching (8M internal NOR flash)                        | Yes                            | Yes                            | Yes                            | Yes                | Yes                |
| Reliability/Data Integrity                                            |                                |                                |                                |                    |                    |
| Vibration, Non-operating: 10 Hz to 500 Hz (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 24x7 Operation (AFR)                        | 0.44%                          | 0.44%                          | 0.44%                          | 0.44%              | 0.44%              |
| Non-recoverable 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                                               | 8,760                          | 8,760                          | 8,760                          | 8,760              | 8,760              |
| Bytes per Sector                                                      | 512, 520, 528                  | 512, 520, 528                  | 512, 520, 528                  | 512, 520, 528      | 512, 520, 528      |
| Warranty, Limited (years)                                             | 5                              | 5                              | 5                              | 5                  | 5                  |
| Performance                                                           |                                |                                |                                |                    |                    |
| Spindle Speed (RPM)                                                   | 7,200                          | 7,200                          | 7,200                          | 7,200              | 7,200              |
| 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, 12.0, 6.0, 3.0 | 12.0, 6.0, 3.0     | 12.0, 6.0, 3.0     |
| Max. Sustained Transfer Rate OD                                       | 263MB/s                        | 255MB/s                        | 250MB/s                        | 250MB/s            | 226MB/s            |
| Average Latency (ms)                                                  | 4.16                           | 4.16                           | 4.16                           | 4.16               | 4.16               |
| Interface Ports                                                       | Dual                           | Dual                           | Dual                           | Dual               | Dual               |
| Rotational Vibration @ 1,500 Hz (rad/s²)                              | 12.5                           | 12.5                           | 12.5                           | 12.5               | 12.5               |
| Power Consumption                                                     |                                |                                |                                |                    |                    |
| Idle Power, Average (W)                                               | 8.14                           | 7.24                           | 6.59                           | 5.9                | 5.9                |
| Typical Operating, Random Read (W)                                    | 12.26                          | 11.34                          | 10.8                           | 10.3               | 10.3               |
| Power Supply Requirements                                             | +12 V and +5 V                 | +12 V and +5 V                 | +12 V and +5 V                 | +12 V and +5 V     | +12 V and +5 V     |
| Environmental                                                         |                                |                                |                                |                    |                    |
| Temperature, Operating (°C) Drive Reported                            | 5 ~ 60                         | 5 ~ 60                         | 5 ~ 60                         | 5 ~ 60             | 5 ~ 60             |
| Shock, Operating 2 ms Read/Write (Gs)                                 | 70/40 Gs                       | 70/40 Gs                       | 70/40 Gs                       | 70/40 Gs           | 70/40 Gs           |
| Shock, Non-operating, (1 ms/2 ms) (Gs)                                | 150/300                        | 150/300                        | 150/300                        | 150/300            | 150/300            |
| Physical                                                              |                                |                                |                                |                    |                    |
| Height (in/mm, max) <sup>2</sup>                                      | 1.028 in/26.11 mm              | 1.028 in/26.11 mm              | 1.028 in/26.11 mm              | 1.028 in/26.11 mm  | 1.028 in/26.11 mm  |
| Width (in/mm, max) <sup>2</sup>                                       | 4.01 in/101.85 mm              | 4.01 in/101.85 mm              | 4.01 in/101.85 mm              | 4.01 in/101.85 mm  | 4.01 in/101.85 mm  |
| Depth (in/mm, max) <sup>2</sup>                                       | 5.787 in/147 mm                | 5.787 in/147 mm                | 5.787 in/147 mm                | 5.787 in/147 mm    | 5.787 in/147 mm    |
| Weight (lb/g)                                                         | 720 g/1.59 lb                  | 716 g/1.58 lb                  | 650 g/1.43 lb                  | 620 g/1.37 lb      | 620 g/1.37 lb      |
| Carton Unit Quantity                                                  | 20                             | 20                             | 20                             | 20                 | 20                 |
| Cartons per Pallet / Cartons per Layer                                | 40/8                           | 40/8                           | 40/8                           | 40/8               | 40/8               |

<sup>1</sup> Self-Encrypting Drives (SED), Instant Secure Erase (ISE) drives, and FIPS 140-3 Validated drives are not available in all models or countries. May require TCG-compliant host or controller support.

<sup>2</sup> 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.



| Specifications                                                        | 4Kn SATA           |                    |                    |                    |                    |
|-----------------------------------------------------------------------|--------------------|--------------------|--------------------|--------------------|--------------------|
| Capacity                                                              | 10 TB              | 8 TB               | 6 TB               | 4 TB               | 2 TB               |
| Standard                                                              | ST10000NM002B      | ST8000NM002B       | ST6000NM004B       | ST4000NM004B       | ST2000NM004B       |
| PowerBalance™ Model **                                                | —                  | —                  | —                  | —                  | —                  |
| Seagate Secure™ SED Model <sup>1</sup> **                             | ST10000NM006B      | ST8000NM006B       | ST6000NM008B       | ST4000NM010B       | ST2000NM010B       |
| Seagate Secure SED-FIPS 140-3 Model <sup>1</sup> **                   | —                  | —                  | —                  | —                  | —                  |
| **not all models will be generally offered as standard configurations | —                  | —                  | —                  | —                  | —                  |
| Features                                                              |                    |                    |                    |                    |                    |
| Protection Information (T10 DIF)                                      | —                  | —                  | —                  | —                  | —                  |
| SuperParity                                                           | Yes                | Yes                | Yes                | Yes                | Yes                |
| Low Halogen                                                           | Yes                | Yes                | Yes                | Yes                | Yes                |
| PowerChoice™ Technology                                               | Yes                | Yes                | Yes                | Yes                | Yes                |
| PowerBalance Technology                                               | Yes                | Yes                | Yes                | Yes                | Yes                |
| Cache, Multi-segmented (MB)                                           | 256                | 256                | 256                | 256                | 256                |
| Advanced Write Caching (8M internal NOR flash)                        | Yes                | Yes                | Yes                | Yes                | Yes                |
| Reliability/Data Integrity                                            |                    |                    |                    |                    |                    |
| Vibration, Non-operating: 10 Hz to 500 Hz (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 24x7 Operation (AFR)                        | 0.44%              | 0.44%              | 0.44%              | 0.44%              | 0.44%              |
| Non-recoverable 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                                               | 8,760              | 8,760              | 8,760              | 8,760              | 8,760              |
| Bytes per Sector                                                      | 4,096              | 4,096              | 4,096              | 4,096              | 4,096              |
| Warranty, Limited (years)                                             | 5                  | 5                  | 5                  | 5                  | 5                  |
| Performance                                                           |                    |                    |                    |                    |                    |
| Spindle Speed (RPM)                                                   | 7,200              | 7,200              | 7,200              | 7,200              | 7,200              |
| 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                                       | 263MB/s            | 255MB/s            | 250MB/s            | 250MB/s            | 226MB/s            |
| Average Latency (ms)                                                  | 4.16               | 4.16               | 4.16               | 4.16               | 4.16               |
| Interface Ports                                                       | Single             | Single             | Single             | Single             | Single             |
| Rotational Vibration @ 1,500 Hz (rad/s²)                              | 12.5               | 12.5               | 12.5               | 12.5               | 12.5               |
| Power Consumption                                                     |                    |                    |                    |                    |                    |
| Idle Power, Average (W)                                               | 7.8                | 7.06               | 6.04               | 5.16               | 5.16               |
| Typical Operating, Random Read (W)                                    | 11.8               | 11.03              | 10.32              | 9.4                | 9.4                |
| Power Supply Requirements                                             | +12 V and +5 V     | +12 V and +5 V     | +12 V and +5 V     | +12 V and +5 V     | +12 V and +5 V     |
| Environmental                                                         |                    |                    |                    |                    |                    |
| Temperature, Operating (°C) Drive Reported                            | 5 ~ 60             | 5 ~ 60             | 5 ~ 60             | 5 ~ 60             | 5 ~ 60             |
| Shock, Operating 2 ms Read/Write (Gs)                                 | 70/40 Gs           | 70/40 Gs           | 70/40 Gs           | 70/40 Gs           | 70/40 Gs           |
| Shock, Non-operating, (1 ms/2 ms) (Gs)                                | 150/300            | 150/300            | 150/300            | 150/300            | 150/300            |
| Physical                                                              |                    |                    |                    |                    |                    |
| Height (in/mm, max) <sup>2</sup>                                      | 1.028 in/26.11 mm  | 1.028 in/26.11 mm  | 1.028 in/26.11 mm  | 1.028 in/26.11 mm  | 1.028 in/26.11 mm  |
| Width (in/mm, max) <sup>2</sup>                                       | 4.01 in/101.85 mm  | 4.01 in/101.85 mm  | 4.01 in/101.85 mm  | 4.01 in/101.85 mm  | 4.01 in/101.85 mm  |
| Depth (in/mm, max) <sup>2</sup>                                       | 5.787 in/147 mm    | 5.787 in/147 mm    | 5.787 in/147 mm    | 5.787 in/147 mm    | 5.787 in/147 mm    |
| Weight (lb/g)                                                         | 720 g/1.59 lb      | 716 g/1.58 lb      | 650 g/1.43 lb      | 620 g/1.37 lb      | 620 g/1.37 lb      |
| Carton Unit Quantity                                                  | 20                 | 20                 | 20                 | 20                 | 20                 |
| Cartons per Pallet / Cartons per Layer                                | 40/8               | 40/8               | 40/8               | 40/8               | 40/8               |

<sup>1</sup> Self-Encrypting Drives (SED), Instant Secure Erase (ISE) drives, and FIPS 140-3 Validated drives are not available in all models or countries. May require TCG-compliant host or controller support.

<sup>2</sup> 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.



| Specifications                                                        | 4Kn SAS                        |                                |                     |                                |                     |
|-----------------------------------------------------------------------|--------------------------------|--------------------------------|---------------------|--------------------------------|---------------------|
| Capacity                                                              | 10 TB                          | 8 TB                           | 6 TB                | 4 TB                           | 2 TB                |
| Standard                                                              | ST10000NM003B                  | ST8000NM003B                   | ST6000NM005B        | ST4000NM005B                   | ST2000NM005B        |
| PowerBalance™ Model **                                                | —                              | —                              | —                   | —                              | —                   |
| Seagate Secure™ SED Model <sup>1</sup> **                             | ST10000NM007B                  | ST8000NM007B                   | ST6000NM009B        | ST4000NM011B                   | ST2000NM011B        |
| Seagate Secure SED-FIPS 140-3 Model <sup>1</sup> **                   | ST10000NM011B                  | ST8000NM011B                   | ST6000NM013B        | ST4000NM017B                   | —                   |
| **not all models will be generally offered as standard configurations | —                              | —                              | —                   | —                              | —                   |
| Features                                                              |                                |                                |                     |                                |                     |
| Protection Information (T10 DIF)                                      | Yes                            | Yes                            | Yes                 | Yes                            | Yes                 |
| SuperParity                                                           | Yes                            | Yes                            | Yes                 | Yes                            | Yes                 |
| Low Halogen                                                           | Yes                            | Yes                            | Yes                 | Yes                            | Yes                 |
| PowerChoice™ Technology                                               | Yes                            | Yes                            | Yes                 | Yes                            | Yes                 |
| PowerBalance Technology                                               | Yes                            | Yes                            | Yes                 | Yes                            | Yes                 |
| Cache, Multi-segmented (MB)                                           | 256                            | 256                            | 256                 | 256                            | 256                 |
| Advanced Write Caching (8M internal NOR flash)                        | Yes                            | Yes                            | Yes                 | Yes                            | Yes                 |
| Reliability/Data Integrity                                            |                                |                                |                     |                                |                     |
| Vibration, Non-operating: 10 Hz to 500 Hz (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 24x7 Operation (AFR)                        | 0.44%                          | 0.44%                          | 0.44%               | 0.44%                          | 0.44%               |
| Non-recoverable 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                                               | 8,760                          | 8,760                          | 8,760               | 8,760                          | 8,760               |
| Bytes per Sector                                                      | 4,096, 4,160, 4,224            | 4,096, 4,160, 4,224            | 4,096, 4,160, 4,224 | 4,096, 4,160, 4,224            | 4,096, 4,160, 4,224 |
| Warranty, Limited (years)                                             | 5                              | 5                              | 5                   | 5                              | 5                   |
| Performance                                                           |                                |                                |                     |                                |                     |
| Spindle Speed (RPM)                                                   | 7,200                          | 7,200                          | 7,200               | 7,200                          | 7,200               |
| 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      | 12.0, 6.0, 3.0, 12.0, 6.0, 3.0 | 12.0, 6.0, 3.0      |
| Max. Sustained Transfer Rate OD                                       | 263MB/s                        | 255MB/s                        | 250MB/s             | 250MB/s                        | 226MB/s             |
| Average Latency (ms)                                                  | 4.16                           | 4.16                           | 4.16                | 4.16                           | 4.16                |
| Interface Ports                                                       | Dual                           | Dual                           | Dual                | Dual                           | Dual                |
| Rotational Vibration @ 1,500 Hz (rad/s²)                              | 12.5                           | 12.5                           | 12.5                | 12.5                           | 12.5                |
| Power Consumption                                                     |                                |                                |                     |                                |                     |
| Idle Power, Average (W)                                               | 8.14                           | 7.24                           | 6.59                | 5.9                            | 5.9                 |
| Typical Operating, Random Read (W)                                    | 12.26                          | 11.34                          | 10.8                | 10.3                           | 10.3                |
| Power Supply Requirements                                             | +12 V and +5 V                 | +12 V and +5 V                 | +12 V and +5 V      | +12 V and +5 V                 | +12 V and +5 V      |
| Environmental                                                         |                                |                                |                     |                                |                     |
| Temperature, Operating (°C) Drive Reported                            | 5 ~ 60                         | 5 ~ 60                         | 5 ~ 60              | 5 ~ 60                         | 5 ~ 60              |
| Shock, Operating 2 ms Read/Write (Gs)                                 | 70/40 Gs                       | 70/40 Gs                       | 70/40 Gs            | 70/40 Gs                       | 70/40 Gs            |
| Shock, Non-operating, (1 ms/2 ms) (Gs)                                | 150/300                        | 150/300                        | 150/300             | 150/300                        | 150/300             |
| Physical                                                              |                                |                                |                     |                                |                     |
| Height (in/mm, max) <sup>2</sup>                                      | 1.028 in/26.11 mm              | 1.028 in/26.11 mm              | 1.028 in/26.11 mm   | 1.028 in/26.11 mm              | 1.028 in/26.11 mm   |
| Width (in/mm, max) <sup>2</sup>                                       | 4.01 in/101.85 mm              | 4.01 in/101.85 mm              | 4.01 in/101.85 mm   | 4.01 in/101.85 mm              | 4.01 in/101.85 mm   |
| Depth (in/mm, max) <sup>2</sup>                                       | 5.787 in/147 mm                | 5.787 in/147 mm                | 5.787 in/147 mm     | 5.787 in/147 mm                | 5.787 in/147 mm     |
| Weight (lb/g)                                                         | 720 g/1.59 lb                  | 716 g/1.58 lb                  | 650 g/1.43 lb       | 620 g/1.37 lb                  | 620 g/1.37 lb       |
| Carton Unit Quantity                                                  | 20                             | 20                             | 20                  | 20                             | 20                  |
| Cartons per Pallet / Cartons per Layer                                | 40/8                           | 40/8                           | 40/8                | 40/8                           | 40/8                |

<sup>1</sup> Self-Encrypting Drives (SED), Instant Secure Erase (ISE) drives, and FIPS 140-3 Validated drives are not available in all models or countries. May require TCG-compliant host or controller support.

<sup>2</sup> 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.

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