Product Overview

# High-Capacity Storage designed for Seamless Enterprise Integration
## Constellation® ES

### What you get:

- Fifth-generation, enterprise, nearline drive designed for 24×7 operation

- Up to 2TB of capacity for data-hungry enterprise business applications

- Best-in-class enhanced rotational vibration tolerance ensures unrivalled performance in high-density applications requiring continuous data access

- Enhanced efficiencies with PowerChoice™ host-selectable power-saving feature for unprecedented savings during slow or idle periods

- Seagate RAID Rebuild™ development platform significantly reduces hours of lost productivity

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## The Seagate Enterprise Advantage

The Seagate® Constellation® ES drive is the fifth-generation 3.5 inch hard drive for capacity-optimised 7,200 RPM enterprise environments. It enables cost-effective, highly efficient enterprise storage solutions with high capacities, best-in-class reliability, leading 6Gb/s performance, optimised power and cooling, and government-grade data security — all backed by world-class Seagate enterprise service and support.

The Constellation ES drives are a family of high-capacity enterprise-class hard drives capable of storing an unprecedented 76TB per square foot (in the 2TB capacity), maximising data centre floor space at a low £/GB. You can rest completely assured, knowing that this nearline drive optimises your 3.5 inch chassis performance with the lowest power draw (less than 7.3W), running cooler in higher-temperature environments. This is perfect for enterprise tiered-storage solutions or for small- to medium-sized businesses, which lack the luxury of a temperature-controlled data centre.

Used by industry-leading enterprise OEMs, system builders and integrators who build cost-effective, high-capacity and eco-friendly enterprise-class server and storage solutions, the Constellation ES drive is the first drive that offers both the industry-leading SAS interface — with its proven scalability, performance and enterprise features — and the traditional SATA (6Gb/s) interface for seamless enterprise integration. With large capacity drives come longer RAID rebuild times, but with the new Seagate RAID Rebuild™ development platform, customers can shorten rebuild times significantly and minimise productivity losses while protecting critical data.

The Constellation ES drive extends the industry's best field-proven reliability to a high-capacity nearline drive based on world-renowned Seagate enterprise experience, including support, design, lifecycle management and eco-system compatibility. This capacity-optimised drive offers an MTBF of 1.2 million hours for economical, enterprise-grade reliability. The Constellation ES implementation of 6Gb/s SAS improves scalability, making this drive ideally suited for use in high-end, high-capacity network storage solutions. It is the industry's first 3.5 inch nearline drive to implement the new SAS 2.0 feature set and is the world's first 3.5 inch nearline drive to operate at 6Gb/s transfer rates in both SAS.

The Constellation ES drive's improved data security comes from enterprise-proven, industry-standard Self-Encrypting Drive (SED) technology based on the AES-256 standard and with FIPS 140-2[1] solutions that protect data where it lives — on the drive. The SED functionality eliminates the need to overwrite or physically destroy drives, enables secure return of drives for warranty or expired lease purposes, and allows organisations to repurpose or sell drives securely.[2]

[1] See FIPS 140-2 Level 2 Certificate at http://csrc.nist.gov/groups/STM/cmvp/documents/140-1/1401val2011.htm#1636

[2] Self-Encrypting Drives and FIPS 140-2 SED security options may require TCG-compliant host or controller support. Not available in all countries.

| Specifications | |
|---|---|
| Capacities[1] | 2TB, 1TB, 500GB |
| Interface | 6Gb/s SAS, SATA 6Gb/s |
| Spindle Speed | 7,200 RPM |
| Power (SAS) | 7.3W typical idling, 10.43W operating, as low as 1.34W with the PowerChoice™ option |
| Power (SATA) | Under 7.0W typical idling, 9.03W operating, as low as 0.53W with the PowerChoice option |
| Mean Time Between Failures | 1.2 million hours at 24×7 |
| Max. Sustained Transfer Rate | 150MB/s (SAS), 140MB/s (SATA) |
| Cache | 64MB |
| Limited Warranty | 5 years |

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

[2] Nearline products shipped between 31 December 2011 and 30 June 2012, have a 3-year limited warranty. Nearline products shipped before 31 December 2011 or after 30 June 30 2012, have a 5-year limited warranty.

## www.seagate.com

**FIPS 140-2 Inside**