

Product Overview

Constellation® ES

High-capacity storage designed for seamless enterprise integration

Key Advantages

- Fifth-generation, enterprise, nearline drive designed for 24x7 operation
- Up to 2TB capacity for data-hungry enterprise business applications
- Best-in-class enhanced rotational vibration tolerance ensures unrivalled performance in high-density applications for 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.
- Multi-drive firmware maximized for enterprise system availability
- Robust performance with dual processor technology and ramp load technologies (35% average sustained throughput increase over previous generation)
- Provides business sustainability with Seagate Unified Storage architecture
 - 6Gb/s SAS performance with error detection and correction (IOEDC/IOECC) capabilities and PI (Protection Information)
 - Self-Encrypting Drive (SED) option cuts IT drive retirement expenses while securely protecting data and is one of the easiest, most cost-effective security measures you can implement.¹
 - FIPS Self-Encrypting Drive option provides all the benefits of SED and is NIST certified to meet U.S., Canada and U.K. government data encryption compliance requirements.^{1,2}

Best-Fit Applications

- High-capacity data center storage
- Mainstream enterprise external storage arrays (SAN, NAS, DAS)
- Enterprise backup and restore—D2D, virtual tape
- Centralized surveillance
- Cloud storage

¹ Self-Encrypting Drive (SED) and FIPS Self-Encrypting Drive options require TCG-compliant host or controller support. Not available in all countries.

² See FIPS 140-2 Level 2 Certificate at <http://csrc.nist.gov/groups/STM/cmvpddocuments/140-1/1401vend.htm>.



Seagate
5-Year
Warranty

FIPS 140-2 INSIDE



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The Seagate Enterprise Advantage

The Seagate® Constellation® ES drive is the fifth-generation 3.5-inch hard drive for capacity-optimized 7200-RPM enterprise environments. It enables cost-effective, highly efficient enterprise storage solutions with high capacities, best-in-class reliability, leading 6Gb/s performance, optimized 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 its 2TB capacity), maximizing data center floor space at a low \$/GB. Be completely assured knowing this nearline drive optimizes your 3.5-inch chassis performance with the lowest power draw (less than 8W), running cooler in higher-temperature environments. This is perfect for enterprise-tiered storage solutions or small-to-medium businesses, which lack the luxury of a temperature-controlled data center.

Employed 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 6Gb/s SAS interface—with its proven scalability, performance and enterprise features—and the traditional SATA (3Gb/s or 6Gb/s) interface for seamless enterprise integration. With large capacity drives comes longer RAID rebuild times, but with the new Seagate RAID Rebuild™ development platform, customers can significantly shorten rebuild times and minimize productivity losses while protecting critical data.

The Constellation ES drive extends the industry's best field-proven reliability into a high-capacity nearline drive based on world-renowned Seagate enterprise experience, including support,

design, lifecycle management and eco-system compatibility. This capacity-optimized drive offers an MTBF of 1.2 million hours for economical, enterprise-grade reliability. The Constellation ES implementation of 6Gb/s SAS improves scalability, which makes 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 and SATA interfaces.

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 140-2¹ 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 organizations to securely repurpose or sell drives. Additionally, the Constellation ES drive carries a 5-year limited warranty.

¹ See FIPS 140-2 Level 2 Certificate at <http://csrc.nist.gov/groups/STM/cmvp/documents/140-1/1401vend.htm>

Specifications	
Capacities	2TB, 1TB, 500GB
Interface(s)	6Gb/s SAS, SATA 6Gb/s
Spindle Speed	7200 RPM
Power (SAS)	8.0W typical idle, 10.43W operating, as low as 1.34W with PowerChoice™ option
Power (SATA)	Under 7.0W typical idle, 9.03W operating, as low as 0.53W with PowerChoice option
Mean Time Between Failures	1.2 million hours at 24x7
Max. Sustained Transfer Rate	150MB/s (SAS), up to 150MB/s (SATA)
Cache	Up to 64MB

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