# Constellation.2™

**Design small and deliver BIG—
2.5-inch, eco-friendly nearline drive**

## 1TB, 500GB and 250GB • 7200 RPM • 6Gb/s SAS • SATA 6Gb/s

### Key Advantages

- Second generation of the first 2.5-inch, mainstream capacity, 15mm z-height, enterprise-class nearline drive for space-constrained data centers
- Choose 6Gb/s SAS for improved data integrity, scalability and fast data access, or SATA 6Gb/s for fast, economical Tier 2/nearline performance.
- The industry's highest-reliability 7200-RPM drive, designed for 24×7 operation with MTBF of 1.4M hours and AFR of 0.62%—all backed by a 5-year limited warranty
- Enterprise-class firmware features and best-in-class rotational vibration tolerance maximizes system availability and performance in multi-drive systems, top performance of up to 115MB/s of maximum sustained throughput.
- Lowest operating power (under 6.4W) and enhanced PowerChoice™ options for additional power savings (up to 54%—as low as 1.1W) during slow or idle periods; Workload Management™ technology helps systems keep drives cool.
- Government-grade Self-Encrypting Drive security option available[1]

### Best-Fit Applications

- Storage-hungry business applications
- Storage area networks (SAN) and network attached storage (NAS)
- Maximum-capacity servers and blade servers
- Rich media content storage—audio, video, image
- Reference and compliance data storage
- Enterprise backup and restore—D2D, virtual tape
- Cloud computing

1 Self-Encrypting Drive option. Requires TCG-compliant host or controller support. Not available in all countries.

Unified Storage™

Seagate 5-Year Warranty

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### 2.5-inch, eco-friendly nearline drive

**Seagate** ®

| Specifications | 6Gb/s SAS | | SATA 6Gb/s | | |
|---|---|---|---|---|---|
| | 1TB[1] | 500GB[1] | 1TB[1] | 500GB[1] | 250GB[1] |
| Model Number | ST91000640SS | ST9500620SS | ST91000640NS | ST9500620NS | ST9250610NS |
| | ST91000641SS[2] | ST9500621SS[2] | ST91000641NS[2] | ST9500621NS[2] | ST9250611NS[2] |
| **Features** | | | | | |
| Protection Information | Yes | Yes | — | — | — |
| Low Halogen | Yes | Yes | Yes | Yes | Yes |
| **Reliability/Data Integrity** | | | | | |
| Mean Time Between Failures (MTBF, hours) | 1.4 million | 1.4 million | 1.4 million | 1.4 million | 1.4 million |
| Reliability Rating @ Full 24x7 Operation (AFR) | 0.62% | 0.62% | 0.62% | 0.62% | 0.62% |
| Nonrecoverable 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 | 8760 | 8760 | 8760 | 8760 | 8760 |
| Bytes per Sector | 512, 520, 528 | 512, 520, 528 | 512 | 512 | 512 |
| Limited Warranty (years) | 5 | 5 | 5 | 5 | 5 |
| **Performance** | | | | | |
| Spindle Speed (RPM) | 7200 | 7200 | 7200 | 7200 | 7200 |
| Cache, Multisegmented (MB) | 64 | 64 | 64 | 64 | 64 |
| 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 (MB/s) | 115 | 115 | 115 | 115 | 115 |
| Seek Time, Average Read/Write (ms) | 8.5/9.5 | 8.5/9.5 | 8.5/9.5 | 8.5/9.5 | 8.5/9.5 |
| Average Latency (ms) | 4.16 | 4.16 | 4.16 | 4.16 | 4.16 |
| Interface Ports | Dual | Dual | Single | Single | Single |
| RV Tolerance (rad/s$^2$ to 1800Hz) | 16 | 16 | 16 | 16 | 16 |
| **Power Management** | | | | | |
| Idle Power (W) | 3.85 | 3.27 | 3.31 | 2.67 | 2.52 |
| Typical Operating, Random Read (W) | 6.4 | 5.6 | 5.21 | 4.51 | 4.35 |
| Power Supply Requirements | +12V and +5V | +12V and +5V | +12V and +5V | +12V and +5V | +12V and +5V |
| PowerChoice™ Technology (W)[3] | As low as 1.87 | As low as 1.87 | As low as 1.19 | As low as 1.19 | As low as 1.19 |
| **Environmental** | | | | | |
| Temperature, Operating (°C) | 5 to 60 | 5 to 60 | 5 to 60 | 5 to 60 | 5 to 60 |
| Vibration, Operating, <400Hz (Gs) | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 |
| Vibration, Nonoperating, <500Hz (Gs) | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 |
| Shock, Operating, 2ms (Gs) | 70 | 70 | 70 | 70 | 70 |
| Shock, Nonoperating, 1ms and 2ms (Gs) | 400 | 400 | 400 | 400 | 400 |
| Acoustics, Typical Idle (bels) | 2.2 | 2.2 | 2.2 | 2.2 | 2.2 |
| Acoustics, Typical Seek (bels) | 2.8 | 2.8 | 2.8 | 2.8 | 2.8 |
| **Physical** | | | | | |
| Z Height (mm) | 15 | 15 | 15 | 15 | 15 |
| Height (in/mm) | 0.583/14.8 | 0.583/14.8 | 0.583/14.8 | 0.583/14.8 | 0.583/14.8 |
| Width (in/mm) | 2.76/70 | 2.76/70 | 2.76/70 | 2.76/70 | 2.76/70 |
| Depth (in/mm) | 3.957/100.5 | 3.957/100.5 | 3.957/100.5 | 3.957/100.5 | 3.957/100.5 |
| Weight (lb/kg) | 0.441/0.200 | 0.403/0.183 | 0.441/0.200 | 0.403/0.183 | 0.395/0.179 |

1 One gigabyte, or GB, equals one billion bytes and one terabyte, or TB, equals one trillion bytes when referring to drive capacity.
2 Self-Encrypting Drive model; requires TCG-compliant host or controller support. Not available in all countries.
3 Based on 1TB capacity model.

**www.seagate.com**
**1-800-SEAGATE (1-800-732-4283)**