



## DATA SHEET

# Intelligent Storage System Exos X 2U12

Seagate® Exos® X advanced storage array is a petabyte-scale, rack-mounted block storage enclosure with self-healing technology, advanced data protection, and software value delivering superefficient mass-capacity storage for conventional data centers and cloud infrastructure.



## Product Highlights

- Self-healing storage technology, ADAPT, and ADR
- Deliver unfettered data access with dual redundant controllers capable of achieving superior sequential read and write performance
- Expand a data center seamlessly with flexible SSD, HDD, and hybrid configuration options
- Efficiently manage hot and cold data with real-time data tiering
- Save space and maximize capacity by stacking 10 Enclosures for 120 drives of data storage

## Key Advantages

**Reliable and Self-healing.** Exos X features self-healing storage technology, Advanced Distributed Autonomic Protection Technology (ADAPT) and Autonomous Drive Regeneration (ADR). Field-proven design with five nines (99.999%) availability. Seagate ADAPT erasure code data protection software dramatically reduces array rebuild overhead. Unique Seagate ADR reduces human intervention and e-waste by automatically renewing hard drives "in situ" and on the fly.

**Built for speed and resilience.** Up to 2 times the performance of the previous generation with redundant active-active controllers powered by the ASIC-based VelosCT controller architecture. Streamline your overhead, with improved throughput, management, and recovery.

**Easy to Set Up, Maintain, and Expand.** All system components—the enclosure, the controller, the firmware, and the drives—are developed and optimized by our engineers to work together seamlessly. The modular architecture makes components interchangeable between systems, and upgrades are simple due to common FRUs, PCMs, controllers, and software.

**Gain and Scale Capacity with Consistent High Performance.** The Exos X 2U12 enables even the smallest business with maximum speed and throughput. Additionally, businesses can expand the system as data requirements grow, with 12 drive slots of storage capacity in a 2U rackmount enclosure. Connect up to ten 2U12 enclosures together for a total of 120 drive slots.

**Build In Security at the Foundation of the Data Life Cycle.** Protect the most valuable business assets with Seagate Secure™ cybersecurity features and intelligent firmware—such as SFTP, SED support, and administrator access controls—that provide built-in measures for reliable and safe file access, transfer, and management.

**Reduce power consumption.** 80 PLUS Gold and 80 PLUS Platinum power supply options with certified adaptive cooling technology..



Specifications		
Controller Model	Seagate 4006 VELOSCT (2 per enclosure)	
Controller Performance	Up to 12GB/s read throughput, 10GB/s write throughput, 725K IOPS (Random Read)	
Advanced Software Features	Auto-Tiering, Snapshots, Asynchronous Replication	
Base Array Software Features	Virtual pools, Thin provisioning, ADAPT, SSD read cache, Encryption	
High-Availability Features	Redundant hot-swap controllers, Redundant hot-swap drives, fans, power, Dual power cords, Hot standby spare, Automatic failover, Multi-path support	
Device (Drive) Support	SAS HDD, NL-SAS HDD, SAS SSD (2.5 or 3.5 Form Factors)	
Data Protection	Seagate ADAPT and RAID levels supported: 0, 1, 5, 6, 10	
Self Healing Technology	Autonomous Drive Regeneration (ADR)	
System Maximum Expansion	2U12 Arrays, Up to 12 drives per enclosure, 10 enclosures maximum including the master, totaling 120 Drives 2U24 Arrays, Up to 24 drives per enclosure, 10 enclosures maximum including the master, totaling 240 Drives 5U84 Arrays, Up to 84 drives per enclosure, 4 enclosures maximum including the master, totaling 336 Drives	
Physical	2U: Height: 87.9mm / 3.46 in, Width: 443mm / 17.44 in, Depth: 630mm / 24.8 in, Width w/ear mounts: 483mm / 19.01 in, Weight: 17kg / 38 lb, Weight (with drives): 30kg / 66 lb	
Hosts		
External Ports	4 per Controller, 8 per System	
Fibre Channel Models	Host speed: 32/16 Gb/s Fibre Channel, Interface type: SFP+/SFP28	
iSCSI Models	Host speed: 10Gb/s, 25Gb/s iSCSI, Interface type: SFP+/SFP28	
Ethernet	10GBASE-T (auto-negotiation to 1Gb)	
SAS Models	Host speed: 12Gb/s, 6Gb/s SAS, Interface type: HD Mini-SAS	
System Configuration		
System Memory	48GB per system	
Volumes per System	1024	
Cache	Mirrored cache, Supercapacitor cache backup, Cache backup to flash – nonvolatile	
Management		
Interface Types	10/100/1000 Ethernet, Micro USB	
Protocols Supported	SNMP, SSL, SSH, SMTP, HTTP(S), Redfish	
Management Consoles	Web GUI, CLI	
Management Software	Seagate Systems storage management console, Remote diagnostics, Nondisruptive updates, Volume expansion	
Power Requirements—AC Input		
Input Power Requirements	100VAC-240VAC, 50Hz/60Hz	
Max Power Output per PSU	580W	
Environmental/Temperature Ranges		
Operating/Nonoperating Temperature	ASHRAE A2, 5°C to 35°C (41°F to 95°F), derate 1°C/300m above 900m, 20°C/hr max rate of change / -40°C to 70°C (-40°F to 158°F)	
Operating/Nonoperating Humidity	-12°C DP and 8% RH to 21°C DP and 80% RH, max DP 21°C / 5% to 100% noncondensing	
Operating/Nonoperating Shock	5 Gs, 11ms, half sine pulses / 15 Gs, 7ms, half sine pulses	
Operating/Nonoperating Vibration	0.18 Gs rms 6Hz to 500Hz random / 0.5 (Z-axis) and 0.25 (X&Y-axis) Gs rms 6Hz to 200Hz random	
Power Supply Units		
Power Supply	Ecodesign (Part SP-PCM01-HE580-AC/Model FS580FS104G-XX) – Gold Power Efficiency 115VAC/60Hz   230VAC50/Hz 10% Load = >80%   >80% 20% Load = >87%   >88% 50% Load = >90%   >92% 100% Load = >87%   >88%	Power Factor Condition 10% Loading = N/A 20% Loading = >0.90 50% Loading = >0.90 100% Loading = >0.95
	Ecodesign (Part SP-PCM4-PT580-AC/Model SGT-S-0580ADU003) – Platinum Power Efficiency 115VAC/60Hz   230VAC50/Hz 10% Load = >80%   >80% 20% Load = >90%   >90% 50% Load = >92%   >94% 100% Load = >89%   >91%	Power Factor Conditions (PFC) 10% Loading = N/A 20% Loading = >0.90 50% Loading = >0.95 100% Loading = >0.95

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