



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 super efficient mass-capacity storage for conventional data centres 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 centre seamlessly with flexible SSD, HDD, and hybrid configuration options
- Efficiently manage hot and cold data with real-time data tiering
- Save space and maximise 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 optimised 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 12 GB/s read throughput, 10 GB/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, totalling 120 Drives 2U24 Arrays, Up to 24 drives per enclosure, 10 enclosures maximum including the master, totalling 240 Drives 5U84 Arrays, Up to 84 drives per enclosure, 4 enclosures maximum including the master, totalling 336 Drives										
Physical	2U: Height: 87.9 mm/3.46 in, Width: 443 mm/17.44 in, Depth: 630 mm/24.8 in, Width w/ear mounts: 483 mm/19.01 in, Weight: 17 kg/38 lb, Weight (with drives): 30 kg/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: 10 Gb/s, 25 Gb/s iSCSI, Interface type: SFP+/SFP28										
Ethernet	10GBASE-T (auto-negotiation to 1Gb)										
SAS Models	Host speed: 12 Gb/s, 6 Gb/s SAS, Interface type: HD Mini-SAS										
System Configuration											
System Memory	48 GB per system										
Volumes per System	1,024										
Cache	Mirrored cache, Supercapacitor cache backup, Cache backup to flash – non-volatile										
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, Non-disruptive updates, Volume expansion										
Power Requirements — AC Input											
Input Power Requirements	100VAC-240VAC, 50Hz/60Hz										
Max Power Output per PSU	580W										
Environmental/Temperature Ranges											
Operating/Non-operating 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/Non-operating Humidity	-12°C DP and 8% RH to 21°C DP and 80% RH, max DP 21°C / 5% to 100% non-condensing										
Operating/Non-operating Shock	5 Gs, 11 ms, half sine pulses/15 Gs, 7 ms, half sine pulses										
Operating/Non-operating Vibration	0.18 Gs rms 6 Hz to 500 Hz random / 0.5 (Z-axis) and 0.25 (X&Y-axis) Gs rms 6 Hz to 200 Hz random										
Power Supply Units											
Power Supply	<p>Ecodesign (Part SP-PCM01-HE580-AC/Model FS580FS104G-XX) – Gold</p> <table border="0"> <tr> <td>Power Efficiency 115 VAC/60 Hz 230 VAC/50 Hz</td> <td>Power Factor Condition</td> </tr> <tr> <td>10% Load = >80% >80%</td> <td>10% Loading = N/A</td> </tr> <tr> <td>20% Load = >87% >88%</td> <td>20% Loading = >0.90</td> </tr> <tr> <td>50% Load = >90% >92%</td> <td>50% Loading = >0.90</td> </tr> <tr> <td>100% Load = >87% >88%</td> <td>100% Loading = >0.95</td> </tr> </table>	Power Efficiency 115 VAC/60 Hz 230 VAC/50 Hz	Power Factor Condition	10% Load = >80% >80%	10% Loading = N/A	20% Load = >87% >88%	20% Loading = >0.90	50% Load = >90% >92%	50% Loading = >0.90	100% Load = >87% >88%	100% Loading = >0.95
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Power Supply	<p>Ecodesign (Part SP-PCM4-PT580-AC/Model SGT-S-0580ADU003) – Platinum</p> <table border="0"> <tr> <td>Power Efficiency 115 VAC/60 Hz 230 VAC/50 Hz</td> <td>Power Factor Conditions (PFC)</td> </tr> <tr> <td>10% Load = >80% >80%</td> <td>10% Loading = N/A</td> </tr> <tr> <td>20% Load = >90% >90%</td> <td>20% Loading = >0.90</td> </tr> <tr> <td>50% Load = >92% >94%</td> <td>50% Loading = >0.95</td> </tr> <tr> <td>100% Load = >89% >91%</td> <td>100% Loading = >0.95</td> </tr> </table>	Power Efficiency 115 VAC/60 Hz 230 VAC/50 Hz	Power Factor Conditions (PFC)	10% Load = >80% >80%	10% Loading = N/A	20% Load = >90% >90%	20% Loading = >0.90	50% Load = >92% >94%	50% Loading = >0.95	100% Load = >89% >91%	100% Loading = >0.95
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