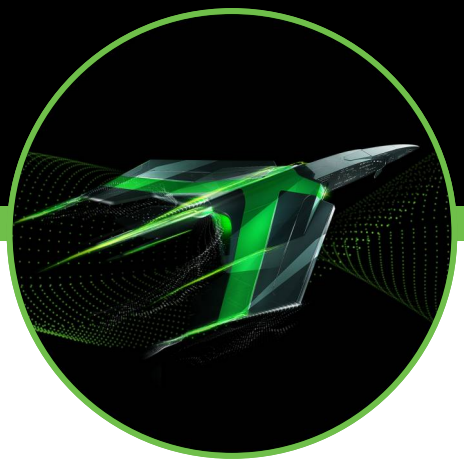
DATA SHEET

Scalable. Responsive. Innovative.

Exos 2X18



Seagate manufactures hard drives that specifically address the needs of the hyperscale storage market. As the highest-performing hard drive in the Seagate® X class, the Exos® 2X18 enterprise dual-actuator hard drive utilises MACH.2™ technology enabling up to 2× the performance of an enterprise single-actuator 3.5-inch hard drive.

Best-Fit Applications

- Hyperscale applications/cloud data centres
- Massive scale-out data centres
- Big data applications
- content delivery networks
- Mainstream enterprise external storage arrays
- Distributed file systems, including Hadoop and Ceph
- Enterprise backup and restore — D2D, virtual tape
- Centralised surveillance
- High-bandwidth streaming applications

SEAGATE SECURE™

Highest Performance for Highest Rack Space Efficiency

MACH.2 technology enables up to 2× the performance of an enterprise single-actuator 3.5-inch hard drive[1]

Highest 18 TB hard drive performance, making it the logical choice for cloud data centre and massive scale-out data centre applications. Available as two independently addressable, 9 TB logical units for SAS or one 18 TB logical device for SATA

PowerBalance™ feature optimises IOPS/Watt

Helium sealed-drive design delivers lower total cost of ownership through lower power and weight

Next-generation helium side-sealed weld technology for added handling robustness and leak protection

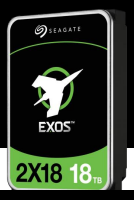
Digital environmental sensors to monitor internal drive conditions for optimal operation and performance

Latest hermetic interconnect technology supporting higher data rate heads and higher pin counts for extreme thermal conditions

Proven enterprise-class reliability backed by **5-year limited warranty and 2.5M-hr MTBF rating**

1 When operating both actuators simultaneously

EXOS™



Specifications	SAS 12Gb/s	SATA 6Gb/s	SAS 12Gb/s	SATA 6 Gb/s
Capacity	18TB	18TB	16TB	16TB
Standard Model FastFormat™ (512e/4Kn)[1]	ST18000NM0272	ST18000NM0092	ST16000NM0002	ST16000NM0092
SED Model FastFormat™(512e/4Kn)[1 2]	ST18000NM0012	—	ST16000NM0012	—
Capacity per Logical Unit	9TB	—	8 TB	—
Capacity per Actuator	9TB	9TB	8 TB	8 TB
Features				
Helium Sealed-Drive Design	Yes	Yes	Yes	Yes
Protection Information (T10 DIF)	No	No	No	No
SuperParity	Yes	Yes	Yes	Yes
Low Halogen	Yes	Yes	Yes	Yes
PowerChoice™ Idle Power Technology	Yes	Yes	Yes	Yes
PowerBalance™ Power/Performance Technology	Yes	Yes	Yes	Yes
Hot-Plug Support[3]	Yes	Yes	Yes	Yes
Cache, Multi-segmented (MB)	256	256	256	256
Organic Solderability Preservative	Yes	Yes	Yes	Yes
Reliability/Data Integrity				
Mean Time Between Failures (MTBF, hours)	2,500,000	2,500,000	2,500,000	2,500,000
Reliability Rating @ Full 24×7 Operation (AFR)	0.35%	0.35%	0.35%	0.35%
RSA 2048 Firmware Verification (SD&D)	Yes	Yes	Yes	Yes
Non-recoverable Read Errors per Bits Read	1 sector per 10E15	1 sector per 10E15	1 sector per 10E15	1 sector per 10E15
Power-On Hours per Year (24×7)	8,760	8,760	8,760	8,760
512e Sector Size (Bytes per Sector)	512	512	512	512
4Kn Sector Size (Bytes per Sector)	4,096	4,096	4,096	4,096
Limited Warranty (years)	5	5	5	5
Performance				
Spindle Speed (RPM)	7,200 RPM	7,200 RPM	7,200 RPM	7,200 RPM
Interface Access Speed (Gb/s)	12.0, 6.0, 3.0	6.0, 3.0	12.0, 6.0, 3.0	6.0, 3.0
Max. Sustained Transfer Rate OD (MB/s, MiB/s)[4]	554 MB/s/528 MiB/s	545 MB/s/520 MiB/s	554 MB/s/528 MiB/s	545 MB/s/520 MiB/s
Random Read/Write 4K QD16 (IOPS)[4]	304/560	304/560	304/560	304/560
Average Latency (ms)	4.16	4.16	4.16	4.16
Interface Ports	Single	Single	Single	Single
Rotation Vibration @ 20-1500 Hz (rad/sec²)	12.5	12.5	12.5	12.5
POWER CONSUMPTION				
Idle A (W) Average	8 W	7.8 W	8 W	7.8 W
Random Read/Write 4K/16Q (W)[4]	11.5 W/9.6 W	11.1 W/9.2 W	11.5 W/9.6 W	11.1 W/9.2 W
Sequential Read/Write 256K/16Q (W)[4]	13.5 W/12.8 W	13.1 W/12.3 W	13.5 W/12.8 W	13.1 W/12.3 W
Power Supply Requirements	+12 V and +5 V	+12 V and +5 V	+12 V and +5 V	+12 V and +5 V
Environmental				
Temperature, Operating (°C)	5°C – 60°C	5°C – 60°C	5°C – 60°C	5°C – 60°C
Vibration, Non-operating: 2 to 500 Hz (Grms)	2.27	2.27	2.27	2.27
Shock, Operating 2 ms (Read/Write) (Gs)	40	40	40	40
Shock, Non-operating 2 ms (GS)	200	200	200	200
Physical				
Height (in/mm, max)[5]	1.028 in/26.1 mm	1.028 in/26.1 mm	1.028 in/26.1 mm	1.028 in/26.1 mm
Width (in/mm, max)[5]	4.01 in/101.85 mm	4.01 in/101.85 mm	4.01 in/101.85 mm	4.01 in/101.85 mm
Depth (in/mm, max)[5]	5.787 in/147 mm	5.787 in/147 mm	5.787 in/147 mm	5.787 in/147 mm
Weight (lb/g)	1.466 lb/665 g	1.466 lb/665 g	1.466 lb/665 g	1.466 lb/665 g
Carton Unit Quantity	20	20	20	20
Cartons per Pallet / Cartons per Layer	40/8	40/8	40/8	40/8

1 FastFormat models ship in 512e format state. When switching from 512e to 4Kn by executing the FastFormat routine, all data on the drive will be deleted. Note that data must be aligned to 4K sectors to see improved performance in 4Kn format.

2 Self-Encrypting Drives (SED) available through franchised authorised distributors. May require TCG-compliant host or controller support.

3 Supports Hotplug operation per the SAS-3, SPL-3, and/or Serial ATA Revision 3.3 specifications

4 When operating both actuators simultaneously

5 These base deck dimensions conform to the Small Form Factor Standard (SFF-8301) found at www.sffcommittee.org. For connector-related dimensions, see SFF-8323.