

Desktop HDD

Data Sheet

The Power of One

- Seagate brings over 30 years of trusted performance and reliability to the new Seagate® Desktop HDDs—now available in capacities up to 4TB.
- Double your capacity and reduce costs with the industry's first 1TB-per-disc hard drive technology.
- SATA 6Gb/s interface optimises burst performance.
- Seagate AcuTrac[™] servo technology delivers dependable performance, even with hard drive track widths of only 75 nanometres.
- Seagate OptiCache[™] technology boosts overall performance by as much as 45%.
- Free Seagate DiskWizard[™] software allows you to install 3TB and 4TB hard drives in Windows, including XP, without UEFI BIOS.

Best-fit Applications

- Desktop or all-in-one PCs
- Home servers
- · PC-based gaming systems
- Desktop RAID
- Direct-attached external storage devices (DAS)
- Network-attached storage devices (NAS)



Desktop HDD



Specifications	4TB¹	3TB¹	2TB1	1TB¹	500GB1	320GB1	250GB1
Model Number	ST4000DM000	ST3000DM001	ST2000DM001	ST1000DM003	ST500DM002 ²	ST320DM000 ²	ST250DM000 ²
Model Name	Desktop HDD	formerly Barracuda®	formerly Barracuda	formerly Barracuda	formerly Barracuda	formerly Barracuda	formerly Barracuda
Interface Options	SATA 6Gb/s NCQ	SATA 6Gb/s NCQ	SATA 6Gb/s NCQ	SATA 6Gb/s NCQ	SATA 6Gb/s NCQ	SATA 6Gb/s NCQ	SATA 6Gb/s NCQ
Performance							
Cache, Multi-segmented (MB)	64	64	64	64	16	16	16
SATA Transfer Rates Supported (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	6.0/3.0/1.5	6.0/3.0/1.5
Seek Average, Read (ms)	<8.5	<8.5	<8.5	<8.5	<11	<11	<11
Seek Average, Write (ms)	<9.5	<9.5	<9.5	<9.5	<12	<12	<12
Average Data Rate, Read/Write (MB/s)	146	156	156	156	125	125	125
Max Sustained Data Rate, OD Read (MB/s)	180	210	210	210	144	144	144
Configuration/Organisation							
Heads/Discs	8/4	6/3	6/3	2/1	2/1	2/1	1/1
Bytes per Sector	4,096	4,096	4,096	4,096	4,096 or 512 ²	4,096 or 512 ²	4,096 or 512 ²
Voltage	,,,,,	,	,	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,
Voltage Tolerance, Including Noise (5V)	+/-5%	+/-5%	+/-5%	+/-5%	+/-5%	+/-5%	+/-5%
Voltage Tolerance, Including Noise (12V)	+/-10%	+10%/-7.5%	+10%/-7.5%	+10%/-7.5%	+10%/-7.5%	+10%/-7.5%	+10%/-7.5%
Reliability/Data Integrity							
Contact Start/Stop Cycles	_	_	_	_	50,000	50,000	50,000
Load/Unload Cycles	300,000	300,000	300,000	300,000	_	_	_
Non-recoverable Read Errors per Bits Read, Max	1 per 10 ¹⁴	1 per 10 ¹⁴	1 per 10 ¹⁴	1 per 10 ¹⁴	1 per 10 ¹⁴	1 per 10 ¹⁴	1 per 10 ¹⁴
Power-on Hours	2,400	2.400	2,400	2,400	2,400	2,400	2,400
Power Management	2,100	2,100	2,100	2,100	2,100	2,100	2,100
, and the second se	2.0	0.5	2.5	2.0	2.0	2.0	0.0
Startup Power (A)	2.0	2.5	2.0	2.0	2.0	2.0	2.0
Startup Power (A) Operating Mode, Typical (W)					-	-	
Operating Mode, Typical (W)	7.5	8.0	8.0	5.90	6.19	6.19	6.19
Operating Mode, Typical (W) Idling, Average (W)	7.5 5.0	8.0 5.8	8.0 5.8	5.90 4.0	6.19 4.60	6.19 4.60	6.19 4.60
Operating Mode, Typical (W) Idling, Average (W) Standby Mode (W)	7.5 5.0 0.75	8.0 5.8 0.75	8.0 5.8 0.75	5.90 4.0 0.63	6.19 4.60 0.79	6.19 4.60 0.79	6.19 4.60 0.79
Operating Mode, Typical (W) Idling, Average (W) Standby Mode (W) Sleep Mode (W)	7.5 5.0	8.0 5.8	8.0 5.8	5.90 4.0	6.19 4.60	6.19 4.60	6.19 4.60
Operating Mode, Typical (W) Idling, Average (W) Standby Mode (W) Sleep Mode (W) Environmental	7.5 5.0 0.75	8.0 5.8 0.75	8.0 5.8 0.75	5.90 4.0 0.63	6.19 4.60 0.79	6.19 4.60 0.79	6.19 4.60 0.79
Operating Mode, Typical (W) Idling, Average (W) Standby Mode (W) Sleep Mode (W) Environmental Temperature	7.5 5.0 0.75 0.75	8.0 5.8 0.75 0.75	8.0 5.8 0.75 0.75	5.90 4.0 0.63 0.63	6.19 4.60 0.79 0.79	6.19 4.60 0.79 0.79	6.19 4.60 0.79 0.79
Operating Mode, Typical (W) Idling, Average (W) Standby Mode (W) Sleep Mode (W) Environmental Temperature Operating (ambient min °C)	7.5 5.0 0.75 0.75	8.0 5.8 0.75 0.75	8.0 5.8 0.75 0.75	5.90 4.0 0.63 0.63	6.19 4.60 0.79 0.79	6.19 4.60 0.79 0.79	6.19 4.60 0.79 0.79
Operating Mode, Typical (W) Idling, Average (W) Standby Mode (W) Sleep Mode (W) Environmental Temperature Operating (ambient min °C) Operating (drive case max °C)	7.5 5.0 0.75 0.75 0 0	8.0 5.8 0.75 0.75 0.75	8.0 5.8 0.75 0.75 0.75	5.90 4.0 0.63 0.63 0 0	6.19 4.60 0.79 0.79 0 60	6.19 4.60 0.79 0.79 0 0	6.19 4.60 0.79 0.79 0 0
Operating Mode, Typical (W) Idling, Average (W) Standby Mode (W) Sleep Mode (W) Environmental Temperature Operating (ambient min °C) Operating (drive case max °C) Non-operating (ambient °C)	7.5 5.0 0.75 0.75 0 60 -40 to 70	8.0 5.8 0.75 0.75 0 60 -40 to 70	8.0 5.8 0.75 0.75 0 60 -40 to 70	5.90 4.0 0.63 0.63 0 0 60 -40 to 70	6.19 4.60 0.79 0.79 0 60 -40 to 70	6.19 4.60 0.79 0.79 0 60 -40 to 70	6.19 4.60 0.79 0.79 0 60 -40 to 70
Operating Mode, Typical (W) Idling, Average (W) Standby Mode (W) Sleep Mode (W) Environmental Temperature Operating (ambient min °C) Operating (drive case max °C) Non-operating (ambient °C) Halogen-free	7.5 5.0 0.75 0.75 0 60 -40 to 70 Yes	8.0 5.8 0.75 0.75 0 60 -40 to 70 Yes	8.0 5.8 0.75 0.75 0 60 -40 to 70 Yes	5.90 4.0 0.63 0.63 0 0 60 -40 to 70 Yes	6.19 4.60 0.79 0.79 0 60 -40 to 70 Yes	6.19 4.60 0.79 0.79 0 60 -40 to 70 Yes	6.19 4.60 0.79 0.79 0 60 -40 to 70 Yes
Operating Mode, Typical (W) Idling, Average (W) Standby Mode (W) Sleep Mode (W) Environmental Temperature Operating (ambient min °C) Operating (drive case max °C) Non-operating (ambient °C) Halogen-free RoHS compliance	7.5 5.0 0.75 0.75 0 60 -40 to 70	8.0 5.8 0.75 0.75 0 60 -40 to 70	8.0 5.8 0.75 0.75 0 60 -40 to 70	5.90 4.0 0.63 0.63 0 0 60 -40 to 70	6.19 4.60 0.79 0.79 0 60 -40 to 70	6.19 4.60 0.79 0.79 0 60 -40 to 70	6.19 4.60 0.79 0.79 0 60 -40 to 70
Operating Mode, Typical (W) Idling, Average (W) Standby Mode (W) Sleep Mode (W) Environmental Temperature Operating (ambient min °C) Operating (drive case max °C) Non-operating (ambient °C) Halogen-free ROHS compliance Physical	7.5 5.0 0.75 0.75 0 60 -40 to 70 Yes	8.0 5.8 0.75 0.75 0 60 -40 to 70 Yes Yes	8.0 5.8 0.75 0.75 0 60 -40 to 70 Yes Yes	5.90 4.0 0.63 0.63 0 60 -40 to 70 Yes	6.19 4.60 0.79 0.79 0 60 -40 to 70 Yes	6.19 4.60 0.79 0.79 0 60 -40 to 70 Yes	6.19 4.60 0.79 0.79 0 60 -40 to 70 Yes
Operating Mode, Typical (W) Idling, Average (W) Standby Mode (W) Sleep Mode (W) Environmental Temperature Operating (ambient min °C) Operating (drive case max °C) Non-operating (ambient °C) Halogen-free RoHS compliance Physical Height (mm/in)	7.5 5.0 0.75 0.75 0 60 -40 to 70 Yes Yes	8.0 5.8 0.75 0.75 0 60 -40 to 70 Yes Yes 26.11/1.028	8.0 5.8 0.75 0.75 0 60 -40 to 70 Yes Yes 26.11/1.028	5.90 4.0 0.63 0.63 0 60 -40 to 70 Yes Yes	6.19 4.60 0.79 0.79 0 60 -40 to 70 Yes Yes	6.19 4.60 0.79 0.79 0 60 -40 to 70 Yes Yes	6.19 4.60 0.79 0.79 0 60 -40 to 70 Yes Yes
Operating Mode, Typical (W) Idling, Average (W) Standby Mode (W) Sleep Mode (W) Environmental Temperature Operating (ambient min °C) Operating (drive case max °C) Non-operating (ambient °C) Halogen-free RoHS compliance Physical Height (mm/in) Width (mm/in)	7.5 5.0 0.75 0.75 0 60 -40 to 70 Yes Yes 26.11/1.028 101.6/4.0	8.0 5.8 0.75 0.75 0 60 -40 to 70 Yes Yes 26.11/1.028 101.6/4.0	8.0 5.8 0.75 0.75 0 60 -40 to 70 Yes Yes 26.11/1.028 101.6/4.0	5.90 4.0 0.63 0.63 0 60 -40 to 70 Yes Yes 20.17/0.7825 101.6/4.0	6.19 4.60 0.79 0.79 0 60 -40 to 70 Yes Yes 19.98/0.787 101.6/4.0	6.19 4.60 0.79 0.79 0.79 0 60 -40 to 70 Yes Yes 19.98/0.787 101.6/4.0	6.19 4.60 0.79 0.79 0 60 -40 to 70 Yes Yes 19.98/0.787 101.6/4.0
Operating Mode, Typical (W) Idling, Average (W) Standby Mode (W) Sleep Mode (W) Environmental Temperature Operating (ambient min °C) Operating (drive case max °C) Non-operating (ambient °C) Halogen-free RoHS compliance Physical Height (mm/in) Width (mm/in) Depth (mm/in)	7.5 5.0 0.75 0.75 0 60 -40 to 70 Yes Yes 26.11/1.028 101.6/4.0 146.99/5.787	8.0 5.8 0.75 0.75 0 60 -40 to 70 Yes Yes 26.11/1.028 101.6/4.0 146.99/5.787	8.0 5.8 0.75 0.75 0 60 -40 to 70 Yes Yes 26.11/1.028 101.6/4.0 146.99/5.787	5.90 4.0 0.63 0.63 0 60 -40 to 70 Yes Yes 20.17/0.7825 101.6/4.0 146.99/5.787	6.19 4.60 0.79 0.79 0.79 0 60 -40 to 70 Yes Yes 19.98/0.787 101.6/4.0 146.99/5.787	6.19 4.60 0.79 0.79 0.79 0 60 -40 to 70 Yes Yes 19.98/0.787 101.6/4.0 146.99/5.787	6.19 4.60 0.79 0.79 0.79 0 60 -40 to 70 Yes Yes 19.98/0.787 101.6/4.0 146.99/5.787
Operating Mode, Typical (W) Idling, Average (W) Standby Mode (W) Sleep Mode (W) Environmental Temperature Operating (ambient min °C) Operating (drive case max °C) Non-operating (ambient °C) Halogen-free RoHS compliance Physical Height (mm/in) Width (mm/in) Depth (mm/in) Weight (g/lb)	7.5 5.0 0.75 0.75 0 60 -40 to 70 Yes Yes 26.11/1.028 101.6/4.0 146.99/5.787 610/1.345	8.0 5.8 0.75 0.75 0 60 -40 to 70 Yes Yes 26.11/1.028 101.6/4.0 146.99/5.787 626/1.38	8.0 5.8 0.75 0.75 0 60 -40 to 70 Yes Yes 26.11/1.028 101.6/4.0 146.99/5.787 626/1.38	5.90 4.0 0.63 0.63 0 60 -40 to 70 Yes Yes 20.17/0.7825 101.6/4.0 146.99/5.787 400/0.88	6.19 4.60 0.79 0.79 0.79 0 60 -40 to 70 Yes Yes 19.98/0.787 101.6/4.0 146.99/5.787 415/0.92	6.19 4.60 0.79 0.79 0.79 0 60 -40 to 70 Yes Yes 19.98/0.787 101.6/4.0 146.99/5.787 415/0.92	6.19 4.60 0.79 0.79 0.79 0 60 -40 to 70 Yes Yes 19.98/0.787 101.6/4.0 146.99/5.787 415/0.92
Operating Mode, Typical (W) Idling, Average (W) Standby Mode (W) Sleep Mode (W) Environmental Temperature Operating (ambient min °C) Operating (drive case max °C) Non-operating (ambient °C) Halogen-free RoHS compliance Physical Height (mm/in) Width (mm/in) Depth (mm/in) Weight (g/lb) Carton Unit Quantity	7.5 5.0 0.75 0.75 0 60 -40 to 70 Yes Yes 101.6/4.0 146.99/5.787 610/1.345 20	8.0 5.8 0.75 0.75 0 60 -40 to 70 Yes Yes 26.11/1.028 101.6/4.0 146.99/5.787 626/1.38 20	8.0 5.8 0.75 0.75 0 60 -40 to 70 Yes Yes 26.11/1.028 101.6/4.0 146.99/5.787 626/1.38 20	5.90 4.0 0.63 0.63 0 60 -40 to 70 Yes Yes 20.17/0.7825 101.6/4.0 146.99/5.787 400/0.88 25	6.19 4.60 0.79 0.79 0.79 0 60 -40 to 70 Yes Yes 19.98/0.787 101.6/4.0 146.99/5.787 415/0.92 25	6.19 4.60 0.79 0.79 0.79 0 60 -40 to 70 Yes Yes 19.98/0.787 101.6/4.0 146.99/5.787 415/0.92 25	6.19 4.60 0.79 0.79 0 60 -40 to 70 Yes Yes 19.98/0.787 101.6/4.0 146.99/5.787 415/0.92 25
Operating Mode, Typical (W) Idling, Average (W) Standby Mode (W) Sleep Mode (W) Environmental Temperature Operating (ambient min °C) Operating (drive case max °C) Non-operating (ambient °C) Halogen-free RoHS compliance Physical Height (mm/in) Width (mm/in) Depth (mm/in) Weight (g/lb) Carton Unit Quantity Cartons per Pallet	7.5 5.0 0.75 0.75 0 60 -40 to 70 Yes Yes 101.6/4.0 146.99/5.787 610/1.345 20 40	8.0 5.8 0.75 0.75 0 60 -40 to 70 Yes Yes 26.11/1.028 101.6/4.0 146.99/5.787 626/1.38 20 40	8.0 5.8 0.75 0.75 0 60 -40 to 70 Yes Yes 26.11/1.028 101.6/4.0 146.99/5.787 626/1.38 20 40	5.90 4.0 0.63 0.63 0 60 -40 to 70 Yes Yes 20.17/0.7825 101.6/4.0 146.99/5.787 400/0.88 25 40	6.19 4.60 0.79 0.79 0.79 0 60 -40 to 70 Yes Yes 19.98/0.787 101.6/4.0 146.99/5.787 415/0.92 25 40	6.19 4.60 0.79 0.79 0.79 0 60 -40 to 70 Yes Yes 19.98/0.787 101.6/4.0 146.99/5.787 415/0.92 25 40	6.19 4.60 0.79 0.79 0 60 -40 to 70 Yes Yes 19.98/0.787 101.6/4.0 146.99/5.787 415/0.92 25 40
Operating Mode, Typical (W) Idling, Average (W) Standby Mode (W) Sleep Mode (W) Environmental Temperature Operating (ambient min °C) Operating (drive case max °C) Non-operating (ambient °C) Halogen-free RoHS compliance Physical Height (mm/in) Width (mm/in) Depth (mm/in) Weight (g/lb) Carton Unit Quantity Cartons per Pallet Cartons per Layer	7.5 5.0 0.75 0.75 0 60 -40 to 70 Yes Yes 101.6/4.0 146.99/5.787 610/1.345 20	8.0 5.8 0.75 0.75 0 60 -40 to 70 Yes Yes 26.11/1.028 101.6/4.0 146.99/5.787 626/1.38 20	8.0 5.8 0.75 0.75 0 60 -40 to 70 Yes Yes 26.11/1.028 101.6/4.0 146.99/5.787 626/1.38 20	5.90 4.0 0.63 0.63 0 60 -40 to 70 Yes Yes 20.17/0.7825 101.6/4.0 146.99/5.787 400/0.88 25	6.19 4.60 0.79 0.79 0.79 0 60 -40 to 70 Yes Yes 19.98/0.787 101.6/4.0 146.99/5.787 415/0.92 25	6.19 4.60 0.79 0.79 0.79 0 60 -40 to 70 Yes Yes 19.98/0.787 101.6/4.0 146.99/5.787 415/0.92 25	6.19 4.60 0.79 0.79 0 60 -40 to 70 Yes Yes 19.98/0.787 101.6/4.0 146.99/5.787 415/0.92 25
Operating Mode, Typical (W) Idling, Average (W) Standby Mode (W) Sleep Mode (W) Environmental Temperature Operating (ambient min °C) Operating (drive case max °C) Non-operating (ambient °C) Halogen-free RoHS compliance Physical Height (mm/in) Width (mm/in) Depth (mm/in) Weight (g/lb) Carton Unit Quantity Cartons per Pallet Cartons per Layer Special Features	7.5 5.0 0.75 0.75 0 60 -40 to 70 Yes Yes 101.6/4.0 146.99/5.787 610/1.345 20 40 8	8.0 5.8 0.75 0.75 0.75 0 60 -40 to 70 Yes Yes 26.11/1.028 101.6/4.0 146.99/5.787 626/1.38 20 40 8	8.0 5.8 0.75 0.75 0.75 0 60 -40 to 70 Yes Yes 26.11/1.028 101.6/4.0 146.99/5.787 626/1.38 20 40 8	5.90 4.0 0.63 0.63 0 60 -40 to 70 Yes Yes 20.17/0.7825 101.6/4.0 146.99/5.787 400/0.88 25 40 8	6.19 4.60 0.79 0.79 0.79 0 60 -40 to 70 Yes Yes 19.98/0.787 101.6/4.0 146.99/5.787 415/0.92 25 40 8	6.19 4.60 0.79 0.79 0.79 0 60 -40 to 70 Yes Yes 19.98/0.787 101.6/4.0 146.99/5.787 415/0.92 25 40 8	6.19 4.60 0.79 0.79 0.79 0 60 -40 to 70 Yes Yes 19.98/0.787 101.6/4.0 146.99/5.787 415/0.92 25 40 8
Operating Mode, Typical (W) Idling, Average (W) Standby Mode (W) Sleep Mode (W) Environmental Temperature Operating (ambient min °C) Operating (drive case max °C) Non-operating (ambient °C) Halogen-free RoHS compliance Physical Height (mm/in) Width (mm/in) Depth (mm/in) Weight (g/lb) Carton Unit Quantity Cartons per Pallet Cartons per Layer	7.5 5.0 0.75 0.75 0 60 -40 to 70 Yes Yes 101.6/4.0 146.99/5.787 610/1.345 20 40	8.0 5.8 0.75 0.75 0 60 -40 to 70 Yes Yes 26.11/1.028 101.6/4.0 146.99/5.787 626/1.38 20 40	8.0 5.8 0.75 0.75 0 60 -40 to 70 Yes Yes 26.11/1.028 101.6/4.0 146.99/5.787 626/1.38 20 40	5.90 4.0 0.63 0.63 0 60 -40 to 70 Yes Yes 20.17/0.7825 101.6/4.0 146.99/5.787 400/0.88 25 40	6.19 4.60 0.79 0.79 0.79 0 60 -40 to 70 Yes Yes 19.98/0.787 101.6/4.0 146.99/5.787 415/0.92 25 40	6.19 4.60 0.79 0.79 0.79 0 60 -40 to 70 Yes Yes 19.98/0.787 101.6/4.0 146.99/5.787 415/0.92 25 40	6.19 4.60 0.79 0.79 0 60 -40 to 70 Yes Yes 19.98/0.787 101.6/4.0 146.99/5.787 415/0.92 25 40

¹ One gigabyte, or GB, equals one billion bytes; and one terabyte, or TB, equals one trillion bytes when referring to drive capacity.



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² Seagate ships this drive in both 4K- and 512-byte sectors. SmartAlign technology is included on 4K sector drives. Both drives are functionally and physically equivalent.