# 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

**Seagate** ®

| Specifications | 4TB[1] | 3TB[1] | 2TB[1] | 1TB[1] | 500GB[1] | 320GB[1] | 250GB[1] |
|---|---|---|---|---|---|---|---|
| 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** | | | | | | | |
| Startup Power (A) | 2.0 | 2.5 | 2.5 | 2.0 | 2.0 | 2.0 | 2.0 |
| Operating Mode, Typical (W) | 7.5 | 8.0 | 8.0 | 5.90 | 6.19 | 6.19 | 6.19 |
| Idling, Average (W) | 5.0 | 5.8 | 5.8 | 4.0 | 4.60 | 4.60 | 4.60 |
| Standby Mode (W) | 0.75 | 0.75 | 0.75 | 0.63 | 0.79 | 0.79 | 0.79 |
| Sleep Mode (W) | 0.75 | 0.75 | 0.75 | 0.63 | 0.79 | 0.79 | 0.79 |
| **Environmental** | | | | | | | |
| Temperature | | | | | | | |
| Operating (ambient min °C) | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Operating (drive case max °C) | 60 | 60 | 60 | 60 | 60 | 60 | 60 |
| Non-operating (ambient °C) | −40 to 70 | −40 to 70 | −40 to 70 | −40 to 70 | −40 to 70 | −40 to 70 | −40 to 70 |
| Halogen-free | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| RoHS compliance | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| **Physical** | | | | | | | |
| Height (mm/in) | 26.11/1.028 | 26.11/1.028 | 26.11/1.028 | 20.17/0.7825 | 19.98/0.787 | 19.98/0.787 | 19.98/0.787 |
| Width (mm/in) | 101.6/4.0 | 101.6/4.0 | 101.6/4.0 | 101.6/4.0 | 101.6/4.0 | 101.6/4.0 | 101.6/4.0 |
| Depth (mm/in) | 146.99/5.787 | 146.99/5.787 | 146.99/5.787 | 146.99/5.787 | 146.99/5.787 | 146.99/5.787 | 146.99/5.787 |
| Weight (g/lb) | 610/1.345 | 626/1.38 | 626/1.38 | 400/0.88 | 415/0.92 | 415/0.92 | 415/0.92 |
| Carton Unit Quantity | 20 | 20 | 20 | 25 | 25 | 25 | 25 |
| Cartons per Pallet | 40 | 40 | 40 | 40 | 40 | 40 | 40 |
| Cartons per Layer | 8 | 8 | 8 | 8 | 8 | 8 | 8 |
| **Special Features** | | | | | | | |
| Seagate OptiCache™ Technology | Yes | Yes | Yes | Yes | No | No | No |
| Seagate AcuTrac™ Technology | Yes | Yes | Yes | Yes | No | No | No |

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

[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.

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