



3.5 HDD DATA SHEET

The Power of Agility for Home, SOHO, and SMB NAS Enclosures



IronWolf™ is designed for everything NAS. Get used to tough, ready, and scalable 24x7 performance that can handle multi-drive environments across a wide range of capacities.



Best-Fit Applications

- 1- to 8-bay network attached storage (NAS)
- Desktop RAID and servers
- Multimedia server storage
- Private cloud



Key Advantages

Optimized for NAS with AgileArray™. AgileArray enables dual-plane balancing and RAID optimization in multi-bay environments, with the most advanced power management possible.

Actively protect your NAS with IronWolf Health Management focusing on prevention, intervention, and recovery.¹

High performance means no lag time or downtime for users during workload traffic for the NAS. Seagate leads the competition with the highest-performing NAS drive portfolio.²

Rotational Vibration (RV) sensors. First in its class of drives to include RV sensors to maintain high performance in multi-drive NAS enclosures.³

Range of capacities up to 12TB. More capacity options means more choices that will fit within the budget. Seagate provides a scalable solution for any NAS use-case scenario.

Do more in multi-user environments. IronWolf provides a workload rate of 180TB/year. Multiple users can confidently upload and download data to the NAS server, knowing IronWolf can handle the workload, whether you are a creative professional or a small business.

Designed for always-on, always-accessible 24x7 performance. Access data on your NAS any time, remotely or on site.

1M hours MTBF, 3-year limited warranty represents an improved total cost of ownership (TCO) over desktop drives with reduced maintenance costs.

Rescue Data Recovery Services.⁴ IronWolf comes with extra peace of mind for any mechanical, accidental, or natural disaster. With a 95% success rate of in-house recovery, Seagate has your back with 3-year included Rescue Services.

¹ Contact your Seagate sales representative for further information.

² Performance may vary depending on user's hardware configuration and operating system.

³ Included on 4, 6, 8, 10, and 12TB models.

⁴ Three-year coverage for product models shipped beginning January 1, 2020. Rescue Services not available in all countries.



Specifications	12TB	10TB	8TB	6TB	4TB
Capacity	12TB	10TB	8TB	6TB	4TB
Standard Model Number	ST12000VN0008	ST10000VN0008	ST8000VN004	ST6000VN001	ST4000VN008
Interface	SATA 6Gb/s	SATA 6Gb/s	SATA 6Gb/s	SATA 6Gb/s	SATA 6Gb/s
Features and Performance					
Drive Bays Supported	1-8 Bays	1-8 Bays	1-8 Bays	1-8 Bays	1-8 Bays
Recording Technology	CMR	CMR	CMR	CMR	CMR
Drive Design (Air or Helium)	Helium	Helium	Air	Air	Air
Workload Rate Limit (WRL)	180	180	180	180	180
Rotational Vibration (RV) Sensor	Yes	Yes	Yes	Yes	Yes
Dual-Plane Balance	Yes	Yes	Yes	Yes	Yes
Error Recovery Control	Yes	Yes	Yes	Yes	Yes
Max. Sustained Transfer Rate OD (MB/s)	210MB/s	210MB/s	210MB/s	190MB/s	180MB/s
Spindle Speed (RPM)	7200	7200	7200	5400	5900
Cache (MB)	256	256	256	256	64
Reliability					
Load/Unload Cycles ¹	600,000	600,000	600,000	600,000	600,000
Nonrecoverable Read Errors Rate, Max	1 per 10E15	1 per 10E15	1 per 10E15	1 per 10E14	1 per 10E14
Power-On Hours	8,760	8,760	8,760	8,760	8,760
Mean Time Between Failures (MTBF, hours)	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000
Rescue Data Recovery Services (years) ²	3	3	3	3	3
Warranty, Limited (years)	3	3	3	3	3
Power Management					
Startup Current, Typical (12V, A)	1.8	1.8	1.8	1.8	1.8
Average Operating Power	7.8	7.8	8.8	5.3	4.8
Idle Power Average (W)	5W	5W	7.6W	3.4W	3.95W
Standby Mode/Sleep Mode, Typical (W)	0.8/0.8	0.8/0.8	0.6/0.6	0.25/0.25	0.5/0.5
Voltage Tolerance, Inc. Noise (5V)	±5%	±5%	±5%	±5%	±5%
Voltage Tolerance, Inc. Noise (12V)	±10%	±10%	±10%	±10%	±10%
Environmental/Temperature					
Operating (ambient, min °C)	0	0	0	5	5
Operating (drive reported temperature, °C) ³	65	65	65	65	65
Nonoperating (ambient, min °C)	-40	-40	-40	-40	-40
Nonoperating (ambient, max °C)	70	70	70	70	70
Halogen Free	Yes	Yes	Yes	Yes	Yes
Environmental/Shock					
Shock, Operating/Nonoperating: 2ms (max)	70Gs/250Gs	70Gs/250Gs	70Gs/250Gs	70Gs/250Gs	80Gs/300Gs
Environmental/Acoustics					
Idle (typical) ⁴	1.8bels	1.8bels	2.8bels	2.6bels	2.3bels
Seek (typical)	2.8bels	2.8bels	3.2bels	2.7bels	2.5bels
Physical					
Height (mm/in)	26.11mm/1.028in	26.11mm/1.028in	26.11mm/1.028in	26.11mm/1.028in	26.11mm/1.028in
Width (mm/in, max)	101.85mm/4.01in	101.85mm/4.01in	101.85mm/4.01in	101.85mm/4.01in	101.85mm/4.01in
Depth (mm/in, max)	146.99mm/5.787in	146.99mm/5.787in	146.99mm/5.787in	146.99mm/5.787in	146.99mm/5.787in
Weight (g/lb, typical)	690g/1.521lb	690g/1.521lb	722g/1.59lb	610g/1.345lb	610g/1.345lb
Carton Unit Quantity	20	20	20	20	20
Cartons per Pallet/Cartons per Layer	40/8	40/8	40/8	40/8	40/8

¹ Load/unload tested to 600,000 cycles.

² From December 31, 2019, 3-year Rescue Data Recovery Services plan may be offered in addition to standard warranty. Rescue Services not available in all countries. Check with reseller on availability.

³ Seagate does not recommend operating at sustained drive temperatures above 60°C. Operating at higher temperatures may affect drive health.

⁴ Idle measured in Idle 1 state.



Specifications	3TB	2TB	1TB
Capacity	3TB	2TB	1TB
Standard Model Number	ST3000VN007	ST2000VN004	ST1000VN002
Interface	SATA 6Gb/s	SATA 6Gb/s	SATA 6Gb/s
Features and Performance			
Drive Bays Supported	1-8 Bays	1-8 Bays	1-8 Bays
Recording Technology	CMR	CMR	CMR
Drive Design (Air or Helium)	Air	Air	Air
Workload Rate Limit (WRL)	180	180	180
Rotational Vibration (RV) Sensor	No	No	No
Dual-Plane Balance	Yes	Yes	Yes
Error Recovery Control	Yes	Yes	Yes
Max. Sustained Transfer Rate OD (MB/s)	180MB/s	180MB/s	180MB/s
Spindle Speed (RPM)	5900	5900	5900
Cache (MB)	64	64	64
Reliability			
Load/Unload Cycles ¹	600,000	600,000	—
Nonrecoverable Read Errors Rate, Max	1 per 10E14	1 per 10E14	1 per 10E14
Power-On Hours	8,760	8,760	8,760
Mean Time Between Failures (MTBF, hours)	1,000,000	1,000,000	1,000,000
Rescue Data Recovery Services (years) ²	3	3	3
Warranty, Limited (years)	3	3	3
Power Management			
Startup Current, Typical (12V, A)	2	2	1.2
Average Operating Power	4.8	4.3	3.76
Idle Power Average (W)	4.8W	3.56W	2.5W
Standby Mode/Sleep Mode, Typical (W)	0.5/0.5	0.5/0.5	0.5/0.5
Voltage Tolerance, Inc. Noise (5V)	±5%	±5%	±5%
Voltage Tolerance, Inc. Noise (12V)	±10%	±10%	±10%
Environmental/Temperature			
Operating (ambient, min °C)	5	5	5
Operating (drive reported temperature, °C) ³	65	65	65
Nonoperating (ambient, min °C)	-40	-40	-40
Nonoperating (ambient, max °C)	70	70	70
Halogen Free	Yes	Yes	Yes
Environmental/Shock			
Shock, Operating/Nonoperating: 2ms (max)	80Gs/300Gs	80Gs/300Gs	80Gs/300Gs
Environmental/Acoustics			
Idle (typical) ⁴	2.3bels	1.9bels	2.1bels
Seek (typical)	2.5bels	2.1bels	2.3bels
Physical			
Height (mm/in)	26.11mm/1.028in	26.11mm/1.028in	20.2mm/0.795in
Width (mm/in, max)	101.85mm/4.01in	101.85mm/4.01in	101.85mm/4.01in
Depth (mm/in, max)	146.99mm/5.787in	146.99mm/5.787in	146.99mm/5.787in
Weight (g/lb, typical)	610g/1.345lb	535g/1.18lb	415g/0.915lb
Carton Unit Quantity	20	20	25
Cartons per Pallet/Cartons per Layer	40/8	40/8	40/8

¹ Load/unload tested to 600,000 cycles.

² From December 31, 2019, 3-year Rescue Data Recovery Services plan may be offered in addition to standard warranty. Rescue Services not available in all countries. Check with reseller on availability.

³ Seagate does not recommend operating at sustained drive temperatures above 60°C. Operating at higher temperatures may affect drive health.

⁴ Idle measured in Idle 1 state.

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