



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

Optimised for NAS with AgileArray™. AgileArray enables dual-plane balancing and RAID optimisation 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 12 TB. 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 180 TB/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.

1 M 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 12 TB models.

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



Specifications	12 TB	10 TB	8 TB	6 TB	4 TB
Capacity	12TB	10TB	8TB	6TB	4TB
Standard Model Number	ST12000VN0008	ST10000VN0008	ST8000VN004	ST6000VN001	ST4000VN008
Interface	SATA 6Gb/s				
Features and Performance					
Drive Bays Supported	1 – 8 Bays				
Recording Technology	CMR	CMR	CMR	CMR	CMR
Drive Design (Air or Helium)	—	—	—	—	—
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)	7,200	7,200	7,200	5,400	5,900
Cache (MB)	256	256	256	256	64
Reliability					
Load/Unload Cycles ¹	600,000	600,000	600,000	600,000	600,000
Non-recoverable 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	—	—	—	—	—
Warranty, Limited (years)	—	—	—	—	—
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)	5 W	5 W	7.6 W	3.4 W	3.95 W
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 (5 V)	±5%	±5%	±5%	±5%	±5%
Voltage Tolerance, Inc. Noise (12 V)	±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
Non-operating (ambient, min °C)	-40	-40	-40	-40	-40
Non-operating (ambient max °C)	70	70	70	70	70
Halogen-free	Yes	Yes	Yes	Yes	Yes
Environmental/Shock					
Shock, Operating/Non-operating: 2 ms (max)	70Gs/250Gs	70Gs/250Gs	70Gs/250Gs	70Gs/250Gs	80Gs/300Gs
Environmental/Acoustics					
Idle (typical) ⁴	—	—	—	—	—
Seek (typical)	2.8 bels	2.8 bels	3.2 bels	2.7 bels	2.5 bels
Physical					
Height (mm/in)	26.11 mm/1.028 in				
Width (mm/in, max)	101.85 mm/4.01 in				
Depth (mm/in, max)	146.99 mm/5.787 in				
Weight (g/lb, typical)	690 g/1.521 lb	690 g/1.521 lb	722 g/1.59 lb	610 g/1.345 lb	610 g/1.345 lb
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	3 TB	2 TB	1 TB
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)	—	—	—
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)	5,900	5,900	5,900
Cache (MB)	64	64	64
Reliability			
Load/Unload Cycles ¹	600,000	600,000	—
Non-recoverable 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	—	—	—
Warranty, Limited (years)	—	—	—
Power Management			
Startup Current, Typical (12V, A)	2	2	1.2
Average Operating Power	4.8	4.3	3.76
Idle Power Average (W)	4.8 W	3.56 W	2.5 W
Standby Mode/Sleep Mode, Typical (W)	0.5/0.5	0.5/0.5	0.5/0.5
Voltage Tolerance, Inc. Noise (5 V)	±5%	±5%	±5%
Voltage Tolerance, Inc. Noise (12 V)	±10%	±10%	±10%
Environmental/Temperature			
Operating (ambient, min °C)	5	5	5
Operating (drive reported temperature, °C) ³	65	65	65
Non-operating (ambient, min °C)	-40	-40	-40
Non-operating (ambient max °C)	70	70	70
Halogen-free	Yes	Yes	Yes
Environmental/Shock			
Shock, Operating/Non-operating: 2 ms (max)	80Gs/300Gs	80Gs/300Gs	80Gs/300Gs
Environmental/Acoustics			
Idle (typical) ⁴	—	—	—
Seek (typical)	2.5 bels	2.1 bels	2.3 bels
Physical			
Height (mm/in)	26.11 mm/1.028 in	26.11 mm/1.028 in	20.2 mm/0.795 in
Width (mm/in, max)	101.85 mm/4.01 in	101.85 mm/4.01 in	101.85 mm/4.01 in
Depth (mm/in, max)	146.99 mm/5.787 in	146.99 mm/5.787 in	146.99 mm/5.787 in
Weight (g/lb, typical)	610 g/1.345 lb	535 g/1.18 lb	415 g/0.915 lb
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.

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⁴ Idle measured in Idle 1 state.

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