IRONWOLF™

SEAGATE

3.5 HDD DATA SHEET

Tough. Ready. Scalable
Purpose-built for Connected-Home, SOHO, & Small-to-Medium Business NAS Environments



IronWolf™ is designed for consumer and commercial NAS. Delivering Tough, Ready and Scalable 24x7 performance in multi-bay, networked environments.



Best-Fit Applications

- Consumer and Commercial NAS
- Desktops and Workstations
- Multimedia Servers

Rescue DATA RECOVERY SERVICES

Key Advantages

Optimized for NAS with AgileArray™ enables Dual-Plane Balancing and Time-Limited Error Recovery to deliver best-in-class RAID performance in multi-bay systems.

Always On, Always Accessible IronWolf drives are designed for 24x7 usage, allowing users to access their data any time, anywhere.

All-CMR Portfolio All IronWolf drives utilize Conventional Magnetic Recording (CMR) technology for consistent, best-in-class NAS performance.

Up to 12TB Broad range of capacity options to deliver scalable and cost-efficient storage solutions.

Built Tough IronWolf drives are rated for 180TB/year workload, allowing consumer and commercial NAS users to seamlessly store and work with large amounts of networked data.

Superior Reliability and Dependability IronWolf drives are rated for 1M hours MTBF and include a 3-year limited warranty for hassle-free data storage and best-in-class total cost of ownership (TCO)

Rotational Vibration (RV) sensors[1]**.** Built-in RV sensors for vibration tolerance and consistent performance in multi-bay systems.

IronWolf Health Management (IHM)[2] Actively protect your NAS data with Prevention, Intervention, and Recovery recommendations to ensure peak system health.

Peace of mind with Data Recovery[3] IronWolf drives include three years of complimentary Rescue Data Recovery Services - in-house secure facilities, with an industry-leading recovery rate of 95% - so you do not have to incur high recovery costs in the event of accidental data corruption or drive damage.

1 Refer to specifications table for models supported.

2 IHM is enabled on all leading NAS systems. Please check with your NAS vendor or a Seagate sales representative for more details.

3 Rescue services not available in all countries. Contact your Seagate sales representative for further details.

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Specifications	12TB	10TB	10TB	8TB	6TB
Capacity	12TB	10TB	10TB	8TB	6TB
Standard Model Number	ST12000VN0008	ST10000VN0008	ST10000VN000	ST8000VN004	ST6000VN001
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	210MB/s	190MB/s
Spindle Speed (RPM)	7,200	7,200	7,200	7,200	5,400
Cache (MB)	256	256	256	256	256
Reliability					
Load/Unload Cycles	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 10E15	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)[4]	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	7.3	7.8	10.1	10.1	5.3
Idle Power Average (W)	5.1W	5W	7.8W	7.8W	3.4W
Standby Mode/Sleep Mode, Typical (W)	1.17/1.17	1.17/1.17	1/1	1/1	0.25/0.25
Voltage Tolerance, Inc. Noise (5V / 12V)	±5% / ±10%	±5% / ±10%	±5% / ±10%	±5% / ±10%	±5% / ±10%
Environmental/Temperature					
Operating Temperature (ambient, min°C)	0	0	0	0	0
Operating Temperature (drive reported, max °C)[5]	65	65	65	65	65
Nonoperating Temperature (ambient, min / max °C)	-40 / 70	-40 / 70	-40 / 70	-40 / 70	-40 / 70
Environmental/Shock					
Shock, Operating/Nonoperating: 2ms (max)	50Gs/200Gs	70Gs/250Gs	70Gs/300Gs	70Gs/300Gs	70Gs/250Gs
Environmental/Acoustics					
Acoustics, Idle (typical, measured in Idle 1 state) (dBA)	2.8bels	18	28	28	26
Acoustics, Seek (typical) (dBA)	3.0bels	28	32	32	27
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)	650g/1.433lb	690g/1.521lb	720g/1.59lb	720g/1.59lb	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

4 Rescue services are not available in all countries. Contact your Seagate sales representative for more info.

5 It is not recommended to operate at sustained drive temperatures above 60°C. Higher temperatures may affect drive health.

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Specifications	4TB	4TB	3TB	3TB	2TB
Capacity	4TB	4TB	3TB	3TB	2TB
Standard Model Number	ST4000VN006	ST4000VN008	ST3000VN006	ST3000VN007	ST2000VN004
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)	Air	Air	Air	Air	Air
Workload Rate Limit (WRL)	180	180	180	180	180
Rotational Vibration (RV) Sensor	Yes	Yes	Yes	No	No
Dual-Plane Balance	Yes	Yes	Yes	Yes	Yes
Error Recovery Control	Yes	Yes	Yes	Yes	Yes
Max. Sustained Transfer Rate OD (MB/s)	202MB/s	180MB/s	202MB/s	180MB/s	180MB/s
Spindle Speed (RPM)	5,400	5,900	5,400	5,900	5,900
Cache (MB)	256	64	256	64	64
Reliability					
Load/Unload Cycles	600,000	600,000	600,000	600,000	600,000
Nonrecoverable Read Errors Rate, Max	1 per 10E14	1 per 10E14	1 per 10E14	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)[4]	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	4.8	4.8	4.8	4.8	4.3
Idle Power Average (W)	3.96W	3.95W	3.96W	4.8W	3.56W
Standby Mode/Sleep Mode, Typical (W)	0.5/0.5	0.5/0.5	0.5/0.5	0.5/0.5	0.5/0.5
Voltage Tolerance, Inc. Noise (5V / 12V)	±5% / ±10%	±5% / ±10%	±5% / ±10%	±5% / ±10%	±5% / ±10%
Environmental/Temperature					
Operating Temperature (ambient, min°C)	0	0	0	0	0
Operating Temperature (drive reported, max °C)[5]	65	65	65	65	65
Nonoperating Temperature (ambient, min / max °C)	-40 / 70	-40 / 70	-40 / 70	-40 / 70	-40 / 70
Environmental/Shock					
Shock, Operating/Nonoperating: 2ms (max)	80Gs/300Gs	80Gs/300Gs	80Gs/300Gs	80Gs/300Gs	80Gs/300Gs
Environmental/Acoustics					
Acoustics, Idle (typical, measured in Idle 1 state) (dBA)	23	23	23	23	19
Acoustics, Seek (typical) (dBA)	27	25	27	25	21
Physical					
Height (mm/in)	20.2mm/0.795in	26.11mm/1.028in	20.2mm/0.795in	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)	490g/1.08lb	610g/1.345lb	490g/1.08lb	610g/1.345lb	535g/1.18lb
Carton Unit Quantity	25	20	25	20	20
Cartons per Pallet/Cartons per Layer	40/8	40/8	40/8	40/8	40/8

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Specifications	1TB
Capacity	1TB
Standard Model Number	ST1000VN002
Interface	SATA 6Gb/s
Features and Performance	
Drive Bays Supported	1-8 Bays
Recording Technology	CMR
Drive Design (Air or Helium)	Air
Workload Rate Limit (WRL)	180
Rotational Vibration (RV) Sensor	No
Dual-Plane Balance	Yes
Error Recovery Control	Yes
Max. Sustained Transfer Rate OD (MB/s)	180MB/s
Spindle Speed (RPM)	5,900
Cache (MB)	64
Reliability	
Load/Unload Cycles	—
Nonrecoverable Read Errors Rate, Max	1 per 10E14
Power-On Hours	8,760
Mean Time Between Failures (MTBF, hours)	1,000,000
Rescue Data Recovery Services (years)[4]	3
Warranty, Limited (years)	3
Power Management	
Startup Current, Typical (12V, A)	1.2
Average Operating Power	3.76
Idle Power Average (W)	2.5W
Standby Mode/Sleep Mode, Typical (W)	0.5/0.5
Voltage Tolerance, Inc. Noise (5V / 12V)	±5% / ±10%
Environmental/Temperature	
Operating Temperature (ambient, min°C)	0
Operating Temperature (drive reported, max °C)[5]	65
Nonoperating Temperature (ambient, min / max °C)	-40 / 70
Environmental/Shock	
Shock, Operating/Nonoperating: 2ms (max)	80Gs/300Gs
Environmental/Acoustics	
Acoustics, Idle (typical, measured in Idle 1 state) (dBA)	21
Acoustics, Seek (typical) (dBA)	23
Physical	
Height (mm/in)	20.2mm/0.795in
Width (mm/in, max)	101.85mm/4.01in
Depth (mm/in, max)	146.99mm/5.787in
Weight (g/lb, typical)	415g/0.915lb
Carton Unit Quantity	25
Cartons per Pallet/Cartons per Layer	40/8

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