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

Optimised 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 16 TB Broad range of capacity options to deliver scalable and cost-efficient storage solutions.

Built Tough IronWolf drives are rated for 180 TB/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.

IRONWOLF™

Specifications	16TB	12TB	10TB	8TB	
Capacity	16TB	12TB	10TB	8TB	8TB
Standard Model Number	ST16000VN001	ST12000VN0008	ST10000VN000	ST8000VN004	ST8000VN002
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)	240MB/s	210MB/s	210MB/s	210MB/s	202MB/s
Spindle Speed (RPM)	7200RPM	7200RPM	7200RPM	7200RPM	5400RPM
Cache (MB)	256MB	256MB	256MB	256MB	256MB
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)	1000000 hr	1000000 hr	1000000 hr	1000000 hr	1000000 hr
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 A	1.8 A	1.8 A	1.8 A	1.8 A
Average Operating Power	7.3 W	7.3 W	10.1 W	10.1 W	5.3 W
Idle Power Average (W)	5.1 W	5.1 W	7.8 W	7.8 W	4.0 W
Standby Mode/Sleep Mode, Typical (W)	1.28 W	1.17 W	1.0 W	1.0 W	0.25 W
Voltage Tolerance, Inc. Noise (5V/12V)	±5%/±10%	±5%/±10%	±5%/±10%	±5%/±10%	±5%/±10%
Environmental/Temperature					
Operating Temperature (ambient, min°C)	0°C	0°C	0°C	0°C	0°C
Operating Temperature (drive reported, max °C)[5]	65°C	65°C	65°C	65°C	65°C
Nonoperating Temperature (ambient, min °C / ma °C)	-40/70	-40/70	-40/70	-40/70	-40/70
Environmental/Shock					
Shock, Operating/Nonoperating: 2ms (max)	50 Gs/200 Gs	50 Gs/200 Gs	70 Gs/300 Gs	70 Gs/300 Gs	80 Gs/300 Gs
Environmental/Acoustics					
Acoustics, Idle (typical, measured in Idle 1 state) (dBA)	28	28	28	28	25
Acoustics, Seek (typical) (dBA)	30	30	32	32	26
Physical					
Height (mm/in)	26.11 mm/1.028 in	26.11 mm/1.028 in	26.11 mm/1.028 in	26.11 mm/1.028 in	26.11 mm/1.028 in
Width (mm/in, max)	101.85 mm/4.010 in	101.85 mm/4.010 in	101.85 mm/4.010 in	101.85 mm/4.01 in	101.85 mm/4.010 in
Depth (mm/in, max)	146.99 mm/5.787 in	146.99 mm/5.787 in	146.99 mm/5.787 in	146.99 mm/5.787 in	146.99 mm/5.787 in
Weight (g/lb, typical)	670 g/1.477 lb	650 g/1.433 lb	720 g/1.59 lb	720 g/1.59 lb	630 g/1.389 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

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	6TB	4TB	2TB
Capacity	6TB	4TB	2TB
Standard Model Number	ST6000VN006	ST4000VN006	ST2000VN003
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	Yes	Yes	Yes
Dual-Plane Balance	Yes	Yes	Yes
Error Recovery Control	Yes	Yes	Yes
Max. Sustained Transfer Rate OD (MB/s)	202MB/s	202MB/s	180MB/s
Spindle Speed (RPM)	5400RPM	5,400	5400RPM
Cache (MB)	256MB	256MB	256MB
Reliability			
Load/Unload Cycles	600,000	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)	1000000 hr	1000000 hr	1000000 hr
Rescue Data Recovery Services (years)[4]	3	3	3
Warranty, Limited (years)	3	3	3
Power Management			
Startup Current, Typical (12V, A)	1.8 A	1.8 A	1.8 A
Average Operating Power	5.3 W	4.8 W	3.1 W
Idle Power Average (W)	4.0 W	3.96 W	2.8 W
Standby Mode/Sleep Mode, Typical (W)	0.25 W	0.5 W	0.25 W
Voltage Tolerance, Inc. Noise (5V/12V)	±5%/±10%	±5%/±10%	±5%/±10%
Environmental/Temperature			
Operating Temperature (ambient, min°C)	0°C	0°C	0°C
Operating Temperature (drive reported, max °C)[5]	65°C	65°C	65°C
Nonoperating Temperature (ambient, min °C / ma °C)	-40/70	-40/70	-40/70
Environmental/Shock			
Shock, Operating/Nonoperating: 2ms (max)	80Gs/300Gs	80 Gs/300 Gs	80 Gs/300 Gs
Environmental/Acoustics			
Acoustics, Idle (typical, measured in Idle 1 state) (dBA)	25	23	20
Acoustics, Seek (typical) (dBA)	26	25	21
Physical			
Height (mm/in)	26.11 mm/1.028 in	20.20 mm/0.795 in	20.20 mm/0.795 in
Width (mm/in, max)	101.85 mm/4.01 in	101.85 mm/4.010 in	101.85 mm/4.010 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)	630 g/1.389 lb	490 g/1.08 lb	415 g/0.915 lb
Carton Unit Quantity	20	25	25
Cartons per Pallet/Cartons per Layer	40/8	40/8	40/8

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