



3.5 HDD DATA SHEET

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

IronWolf<sup>™</sup> 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



## Key Advantages

**Optimised for NAS with AgileArray**<sup>™</sup> 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**<sup>1</sup>. Built-in RV sensors for vibration tolerance and consistent performance in multi-bay systems.

**IronWolf Health Management (IHM)**<sup>2</sup> Actively protect your NAS data with Prevention, Intervention, and Recovery recommendations to ensure peak system health.

**Peace of mind with Data Recovery**<sup>3</sup> 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.

<sup>1</sup> Refer to specifications table for models supported.

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

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





Capacity	Specifications	16 TB	14 TB	12 TB		ТВ
Strict   S						
Interface			-			
Fortier Sary Supported   1 - 8 Bays   1 -			-			
Drive Bays Supported   1 - 8 Bays		S/TI/T GGB/G	O/TITT GGB/G	C/T/T GGS/G	C/T/T GGB/6	C/TI/T CGB/C
Recording Technology		1 – 8 Bays				
Drive Design (Air of Helium)	, ,,	<del></del>	· ·			
Workload Rate Limit (WRL)   180	• • • • • • • • • • • • • • • • • • • •		-			
Protectional Vibration (PV) Sensor	,		-			
Dual-Plane Balance	, ,		-			
Yes   Xex Sustained Transfer Rate OD (MB/s)   240MMB/s   240MMB/s   210MMB/s   210MMB/s   210MMB/s   210MMB/s   210MMB/s   220MMB/s   7200RPM   72	, ,		-			
Max. Sustained Transfer Rate OD (MB/s)         240MB/s         240MB/s         210MB/s         210MB/s         210MB/s           Spindle Speed (RPM)         7200RPM         7200RPM <td></td> <td></td> <td>-</td> <td></td> <td></td> <td></td>			-			
Page	·		-			
Cache (MB)   256 MB	· '		-			
Reliability	. , , ,		-			
Load/Unload Cycles   600,000   600,000   600,000   600,000   600,000   600,000	, ,	250 WIB	200 WID	230 1012	230 WIB	230 NIB
Non-recoverable Read Errors Rate, Max	· · · · · · · · · · · · · · · · · · ·	600,000	600,000	600,000	600,000	600,000
Power-on Hours   8,760   8,760   8,760   8,760   8,760   8,760   8,760	·		· ·			
Mean Time Between Failures (MTBF, hours)         1000000 hr         3	<u> </u>	<del></del>	<del></del>	· ·	· ·	· · · · · · · · · · · · · · · · · · ·
Rescue Data Recovery Services (years) 4   3   3   3   3   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 M						
Power Management	, ,		-	-		
Startup Current, Typical (12V, A)   1.8 A	, , , , , , , , , , , , , , , , , , ,					,
Average Operating Power 7.3 7.3 7.3 7.3 7.3 W 10.1 W 7.8 W 1dle Power Average (W) 5.1 5.1 5.1 5.1 W 7.8 W 5.0 W 1.17 W 1.17 W 1.0 W 1.17 W 1.17 W 1.0 W 1.17 W 1.17 W 1.17 W 1.0 W 1.17 W 1.17 W 1.17 W 1.17 W 1.17 W 1.18 W 1.18 W 1.17 W 1.18 W 1.18 W 1.17 W 1.19 W 1.19 W 1.17 W 1.19 W 1.19 W 1.17 W 1.17 W 1.19 W 1.19		1.8 A				
Idie Power Average (W)   5.1   5.1   5.1   5.1 W   7.8 W   5.0 W			-			
Standby Mode/Sleep Mode, Typical (W)   1.28 W   1.17 W			-			
Environmental/Temperature   Coperating Temperature (ambient, min °C)	• ,	1.28 W	1.17 W	1.17 W	1.0 W	1.17 W
Operating Temperature (ambient, min °C)         0°C	, , , , , , ,					
Environmental/Shock Shock, Operating/Non-operating: 2 ms (max)  50 Gs/200 Gs  50 Gs/200 Gs  50 Gs/200 Gs  70 Gs/300 Gs  70 Gs/300 Gs  70 Gs/250 Gs  Environmental/Acoustics  Acoustics, Idle (typical, measured in Idle 1 state) (dBA)  28  28  28  28  28  28  28  28  28  2		0°C	0°C	0°C	0°C	0°C
Shock, Operating/Non-operating: 2 ms (max)         50 Gs/200 Gs         50 Gs/200 Gs         50 Gs/200 Gs         70 Gs/300 Gs         70 Gs/250 Gs           Environmental/Acoustics         Acoustics, Idle (typical, measured in Idle 1 state) (dBA)         28         28         28         28         28         28         28         28         28         28         28         28         28         30         30         30         32         30         30         30         32         30         30         32         30         30         30         32         30 <t< td=""><td> ,</td><td>65°C</td><td>65°C</td><td>65°C</td><td>65°C</td><td>65°C</td></t<>	,	65°C	65°C	65°C	65°C	65°C
Environmental/Acoustics   Acoustics, Idle (typical, measured in Idle 1 state) (dBA)   28   28   28   28   28   28   28   2	Environmental/Shock					
Environmental/Acoustics  Acoustics, Idle (typical, measured in Idle 1 state) (dBA)  28 28 28 28 28 28 28 28 28 28 28 28 28	Shock, Operating/Non-operating: 2 ms (max)	50 Gs/200 Gs	50 Gs/200 Gs	50 Gs/200 Gs	70 Gs/300 Gs	70 Gs/250 Gs
Acoustics, Seek (typical) (dBA) 30 30 30 32 30  Physical  Height (mm/in) 26.11 mm/1.028 in 101.85 mm/4.010 in 101						
Physical           Height (mm/in)         26.11 mm/1.028 in         26.11 mm/	Acoustics, Idle (typical, measured in Idle 1 state) (dBA)	28	28	28	28	28
Physical           Height (mm/in)         26.11 mm/1.028 in         26.11 mm/	Acoustics, Seek (typical) (dBA)	30	30	30	32	30
Width (mm/in, max)         101.85 mm/4.010 in         101.85						
Depth (mm/in, max)         146.99 mm/5.787 in         146.99	Height (mm/in)	26.11 mm/1.028 in				
Weight (g/lb, typical)         670 g/1.477 lb         650 g/1.433 lb         650 g/1.433 lb         720 g/1.59 lb         690 g/1.521 lb           Carton Unit Quantity         20         20         20         20         20	Width (mm/in, max)	101.85 mm/4.010 in				
Weight (g/lb, typical)         670 g/1.477 lb         650 g/1.433 lb         650 g/1.433 lb         720 g/1.59 lb         690 g/1.521 lb           Carton Unit Quantity         20         20         20         20         20	Depth (mm/in, max)		-		146.99 mm/5.787 in	146.99 mm/5.787 in
Carton Unit Quantity         20         20         20         20         20			-		720 g/1.59 lb	
Cartons per Pallet / Cartons per Layer 40/8 40/8 40/8 40/8 40/8			20			
	•	40/8	40/8			40/8

<sup>4</sup> 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.





Specifications	3	з тв	6	ТВ
Capacity	8 TB	8 TB	6 TB	6 TB
Standard Model Number	ST8000VN004	ST8000VN002	ST6000VN006	ST6000VN001
Interface	SATA 6Gb/s	SATA 6Gb/s	SATA 6Gb/s	SATA 6Gb/s
Features and Performance				
Drive Bays Supported	1 – 8 Bays			
Recording Technology	CMR	CMR	CMR	CMR
Drive Design (Air or Helium)	Air	Air	Air	Air
Workload Rate Limit (WRL)	180	180	180	180
Rotational Vibration (RV) Sensor	Yes	Yes	Yes	Yes
Dual-Plane Balance	Yes	Yes	Yes	Yes
Error Recovery Control	Yes	Yes	Yes	Yes
Max. Sustained Transfer Rate OD (MB/s)	210MB/s	202MB/s	202MB/s	190MB/s
Spindle Speed (RPM)	7200RPM	5400RPM	5400RPM	5400RPM
Cache (MB)	256 MB	256 MB	256 MB	256 MB
Reliability				
Load/Unload Cycles	600,000	600,000	600,000	600,000
Non-recoverable Read Errors Rate, Max	1 per 10E15	1 per 10E14	1 per 10E14	1 per 10E14
Power-on Hours	8,760	8,760	8,760	8,760
Mean Time Between Failures (MTBF, hours)	1000000 hr	1000000 hr	1000000 hr	1000000 hr
Rescue Data Recovery Services (years) 4	3	3	3	3
Narranty, Limited (years)	3	3	3	3
Power Management	•	•	•	
Startup Current, Typical (12V, A)	2	2	2	2
Average Operating Power	10.1 W	5.3 W	5.3 W	5.3 W
dle Power Average (W)	7.8 W	4.0 W	4.0 W	3.4 W
Standby Mode/Sleep Mode, Typical (W)	1.0 W	0.25 W	0.25 W	0.25 W
Environmental/Temperature				
Operating Temperature (ambient, min °C)	0°C	0°C	0°C	0°C
Operating Temperature (drive reported, max °C) 5	65°C	65°C	65°C	65°C
Environmental/Shock				
Shock, Operating/Non-operating: 2 ms (max)	70 Gs/300 Gs	80 Gs/300 Gs	80Gs/300Gs	70Gs/250Gs
Environmental/Acoustics				
Acoustics, Idle (typical, measured in Idle 1 state) (dBA)	28	25	25	26
Acoustics, Seek (typical) (dBA)	32	26	26	27
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
Width (mm/in, max)	101.85 mm/4.01 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
Weight (g/lb, typical)	720 g/1.59 lb	630 g/1.389 lb	630 g/1.389 lb	610 g/1.345 lb
Carton Unit Quantity	20	20	20	20
Cartons per Pallet / Cartons per Layer	40/8	40/8	40/8	40/8

<sup>4</sup> 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.





Specifications	4	· TB	3 -	ТВ
Capacity	4 TB	4 TB	3 TB	3 TB
Standard Model Number	ST4000VN006	ST4000VN008	ST3000VN006	ST3000VN007
Interface	SATA 6Gb/s	SATA 6Gb/s	SATA 6Gb/s	SATA 6Gb/s
Features and Performance				
Drive Bays Supported	1 – 8 Bays			
Recording Technology	CMR	CMR	CMR	CMR
Drive Design (Air or Helium)	Air	Air	Air	Air
Workload Rate Limit (WRL)	180	180	180	180
Rotational Vibration (RV) Sensor	Yes	Yes	Yes	_
Dual-Plane Balance	Yes	Yes	Yes	Yes
Error Recovery Control	Yes	Yes	Yes	Yes
Max. Sustained Transfer Rate OD (MB/s)	202MB/s	180MB/s	202MB/s	180MB/s
Spindle Speed (RPM)	5,400	5900RPM	5400RPM	5900RPM
Cache (MB)	256 MB	64 MB	256 MB	64 MB
Reliability				
Load/Unload Cycles	600,000	600,000	600,000	600,000
Non-recoverable Read Errors Rate, Max	1 per 10E14	1 per 10E14	1 per 10E14	1 per 10E14
Power-on Hours	8,760	8,760	8,760	8,760
Mean Time Between Failures (MTBF, hours)	1000000 hr	1000000 hr	1000000 hr	1000000 hr
Rescue Data Recovery Services (years) 4	3	3	3	3
Warranty, Limited (years)	3	3	3	3
Power Management				
Startup Current, Typical (12V, A)	1.8	1.8	1.8 A	1.8 A
Average Operating Power	4.8 W	4.8 W	4.8 W	4.8 W
dle Power Average (W)	3.96 W	3.95 W	3.96 W	4.8 W
Standby Mode/Sleep Mode, Typical (W)	0.5 W	0.5 W	0.5 W	0.5 W
Environmental/Temperature				
Operating Temperature (ambient, min °C)	0°C	0°C	0°C	0°C
Operating Temperature (drive reported, max °C) 5	65°C	65°C	65°C	65°C
Environmental/Shock				
Shock, Operating/Non-operating: 2 ms (max)	80 Gs/300 Gs	80 Gs/300 Gs	80 Gs/300 Gs	80 Gs/300 Gs
Environmental/Acoustics				
Acoustics, Idle (typical, measured in Idle 1 state) (dBA)	23	23	23	23
Acoustics, Seek (typical) (dBA)	27	25	27	25
Physical				
Height (mm/in)	20.20 mm/0.795 in	26.11 mm/1.028 in	20.20 mm/0.795 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/4.010 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
Weight (g/lb, typical)	490 g/1.08 lb	610 g/1.345 lb	490 g/1.08 lb	610 g/1.345 lb
Carton Unit Quantity	25	20	25	20
Cartons per Pallet / Cartons per Layer	40/8	40/8	40/8	40/8

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Specifications		? TB	1	ТВ
Capacity	2 TB	2 TB	1 TB	1 TB
Standard Model Number	ST2000VN003	ST2000VN004	ST1000VN008	ST1000VN002
Interface	SATA 6Gb/s	SATA 6Gb/s	SATA 6Gb/s	SATA 6Gb/s
Features and Performance				
Drive Bays Supported	1 – 8 Bays			
Recording Technology	CMR	CMR	CMR	CMR
Drive Design (Air or Helium)	Air	Air	Air	Air
Workload Rate Limit (WRL)	180	180	180	180
Rotational Vibration (RV) Sensor	Yes	_	Yes	_
Dual-Plane Balance	Yes	Yes	Yes	Yes
Error Recovery Control	Yes	Yes	Yes	Yes
Max. Sustained Transfer Rate OD (MB/s)	180MB/s	180MB/s	180MB/s	180MB/s
Spindle Speed (RPM)	5400RPM	5900RPM	5400RPM	5900RPM
Cache (MB)	256 MB	64 MB	256 MB	64 MB
Reliability				
Load/Unload Cycles	600,000	600,000	600,000	_
Non-recoverable Read Errors Rate, Max	1 per 10E14	1 per 10E14	1 per 10E14	1 per 10E14
Power-on Hours	8,760	8,760	8,760	8,760
Mean Time Between Failures (MTBF, hours)	1000000 hr	1000000 hr	1000000 hr	1000000 hr
Rescue Data Recovery Services (years) 4	3	3	3	3
Warranty, Limited (years)	3	3	3	3
Power Management				
Startup Current, Typical (12V, A)	1.8 A	1.8 A	1.8 A	1.2 A
Average Operating Power	3.1 W	4.3 W	3.1 W	3.76 W
Idle Power Average (W)	2.8 W	3.56 W	2.8 W	2.5 W
Standby Mode/Sleep Mode, Typical (W)	0.25 W	0.5 W	0.25 W	0.5 W
Environmental/Temperature				
Operating Temperature (ambient, min °C)	0°C	0°C	0°C	0°C
Operating Temperature (drive reported, max °C) 5	65°C	65°C	65°C	65°C
Environmental/Shock				
Shock, Operating/Non-operating: 2 ms (max)	80 Gs/300 Gs	80 Gs/300 Gs	80 Gs/300 Gs	80 Gs/300 Gs
Environmental/Acoustics				
Acoustics, Idle (typical, measured in Idle 1 state) (dBA)	20	19	20	21
Acoustics, Seek (typical) (dBA)	21	21	21	23
Physical				
Height (mm/in)	20.20 mm/0.795 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/4.010 in	101.85 mm/4.010 in	101.85 mm/4.010 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	146.99 mm/5.787 in
Weight (g/lb, typical)	415 g/0.915 lb	535 g/1.18 lb	415 g/0.915 lb	415 g/0.915 lb
Carton Unit Quantity	25	20	25	25
Cartons per Pallet / Cartons per Layer	40/8	40/8	40/8	40/8

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



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