

3.5 HDD DATA SHEET

## The Power of Agility for Creative Pro and SME NAS Enclosures



IronWolf™ Pro is designed for everything business 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 16-bay network attached storage (NAS)
- Backup, archiving and disaster recovery
- On-premise private cloud
- Virtual storage



## 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.<sup>1</sup>

**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.<sup>2</sup>

**Seagate® Rescue Data Recovery.<sup>3</sup>** IronWolf Pro comes with extra peace of mind for any mechanical, accidental or natural disaster. With a 90% success rate of in-house recovery, Seagate has your back with a 2-year included Rescue Data Recovery plan.

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

**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 300TB/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.

**1.2M hours MTBF, 5-year limited warranty** represents an improved total cost of ownership (TCO) over desktop drives with reduced maintenance costs.

<sup>1</sup> Contact your Seagate sales representative for further information.

<sup>2</sup> Performance may vary depending on user's hardware configuration and operating system.

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



Specifications	12TB	10TB	8TB
Standard Model Number <sup>1</sup>	ST12000NE0007	ST10000NE0004	ST8000NE0004
Interface	SATA 6Gb/s	SATA 6Gb/s	SATA 6Gb/s
<b>Features</b>			
Drive Bays Supported	Up to 16 Bays	Up to 16 Bays	Up to 16 Bays
Multi-User Technology (TB/yr)	300	300	300
Rotational Vibration (RV) Sensors	Yes	Yes	Yes
Hot-Plug Support <sup>2</sup>	Yes	Yes	Yes
Cache (MB)	256	256	256
<b>Reliability/Data Integrity</b>			
Mean Time Between Failures (MTBF, hours)	1,200,000	1,200,000	1,200,000
Reliability Rating @ Full 24x7 Operation (AFR)	0.73%	0.73%	0.73%
Nonrecoverable Read Errors per Bits Read, Max	1 per 10E15	1 per 10E15	1 per 10E15
Power-On Hours per Year (24x7)	8760	8760	8760
Sector Size (Bytes per Logical Sector)	512E	512E	512E
Rescue Services <sup>3</sup>	Yes	Yes	Yes
Limited Warranty (years)	5	5	5
<b>Performance</b>			
Spindle Speed (RPM)	7200	7200	7200
Interface Access Speed (Gb/s)	6.0, 3.0, 1.5	6.0, 3.0, 1.5	6.0, 3.0, 1.5
Max. Sustained Transfer Rate OD (MB/s)	250MB/s	214MB/s	214MB/s
Average Latency (ms)	4.16	4.16	4.16
Interface Ports	Single	Single	Single
Rotational Vibration @ 10-1500 Hz (rad/s <sup>2</sup> )	12.5	12.5	12.5
<b>Power Consumption</b>			
Startup Current, Typical (12V, A)	2.0	2.0	2.0
Idle Power, Average (W)	5.0	5.0	4.4
Average Operating Power (W)	7.8W	7.8W	7.4W
Standby Mode (W)	0.8	0.8	0.8
Sleep Mode (W)	0.8	0.8	0.8
Power Supply Requirements	+12 V and +5 V	+12 V and +5 V	+12 V and +5 V
<b>Environmental/Temperature</b>			
Operating (ambient, min °C)	5	5	5
Operating (drive case, max °C)	60	60	60
Nonoperating (ambient, min °C)	-40	-40	-40
Nonoperating (ambient, max °C)	70	70	70
<b>Environmental/Acoustics</b>			
Vibration, Nonoperating: 10Hz to 500Hz (Grms)	2.27	2.27	2.27
<b>Environmental/Shock</b>			
Shock, Operating 2ms (Read/Write) (Gs)	70/40Gs	70/40Gs	70/40Gs
Shock, Nonoperating, 1ms and 2ms (Gs)	250	250	250
<b>Physical</b>			
Height (mm/in)	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
Depth (mm/in, max)	146.99mm/5.787in	146.99mm/5.787in	146.99mm/5.787in
Weight (g/lb)	705g/1.55lb	705g/1.55lb	650g/1.43lb
Carton Unit Quantity	20	20	20
Cartons per Pallet/Cartons per Layer	40/8	40/8	40/8

<sup>1</sup> Seagate recommends validating your configuration with your HBA/RAID controller manufacturer to ensure full capacity capabilities.

<sup>2</sup> Supports Hot-Plug operation per Serial ATA Revision 2.6 specification.

<sup>3</sup> Rescue recovery services not available in all countries. Contact your Seagate sales representative for further details. Register an IronWolf Pro drive to activate your 2-year Rescue plan at [seagate.com/register](http://seagate.com/register).



Specifications	6TB	4TB	2TB
Standard Model Number <sup>1</sup>	ST6000NE0023	ST4000NE0025	ST2000NE0025
Interface	SATA 6Gb/s	SATA 6Gb/s	SATA 6Gb/s
<b>Features</b>			
Drive Bays Supported	Up to 16 Bays	Up to 16 Bays	Up to 16 Bays
Multi-User Technology (TB/yr)	300	300	300
Rotational Vibration (RV) Sensors	Yes	Yes	Yes
Hot-Plug Support <sup>2</sup>	Yes	Yes	Yes
Cache (MB)	256	128	128
<b>Reliability/Data Integrity</b>			
Mean Time Between Failures (MTBF, hours)	1,200,000	1,200,000	1,200,000
Reliability Rating @ Full 24x7 Operation (AFR)	0.73%	0.73%	0.73%
Nonrecoverable Read Errors per Bits Read, Max	1 per 10E15	1 per 10E15	1 per 10E15
Power-On Hours per Year (24x7)	8760	8760	8760
Sector Size (Bytes per Logical Sector)	512E	512E	512E
Rescue Services <sup>3</sup>	Yes	Yes	Yes
Limited Warranty (years)	5	5	5
<b>Performance</b>			
Spindle Speed (RPM)	7200	7200	7200
Interface Access Speed (Gb/s)	6.0, 3.0, 1.5	6.0, 3.0, 1.5	6.0, 3.0, 1.5
Max. Sustained Transfer Rate OD (MB/s)	214MB/s	214MB/s	195MB/s
Average Latency (ms)	4.16	4.16	4.16
Interface Ports	Single	Single	Single
Rotational Vibration @ 10-1500 Hz (rad/s <sup>2</sup> )	12.5	12.5	12.5
<b>Power Consumption</b>			
Startup Current, Typical (12V, A)	2.0	2.0	2.0
Idle Power, Average (W)	7.5	5.45	4.61
Average Operating Power (W)	8.1W	8.5W	6.5W
Standby Mode (W)	0.6	0.6	0.8
Sleep Mode (W)	0.6	0.6	0.8
Power Supply Requirements	+12 V and +5 V	+12 V and +5 V	+12 V and +5 V
<b>Environmental/Temperature</b>			
Operating (ambient, min °C)	5	5	5
Operating (drive case, max °C)	60	60	60
Nonoperating (ambient, min °C)	-40	-40	-40
Nonoperating (ambient, max °C)	70	70	70
<b>Environmental/Acoustics</b>			
Vibration, Nonoperating: 10Hz to 500Hz (Grms)	3	3	3
<b>Environmental/Shock</b>			
Shock, Operating 2ms (Read/Write) (Gs)	70/40Gs	70/40Gs	70/40Gs
Shock, Nonoperating, 1ms and 2ms (Gs)	250	300	300
<b>Physical</b>			
Height (mm/in)	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
Depth (mm/in, max)	146.99mm/5.787in	146.99mm/5.787in	146.99mm/5.787in
Weight (g/lb)	705g/1.55lb	680g/1.50lb	550g/1.21lb
Carton Unit Quantity	20	20	20
Cartons per Pallet/Cartons per Layer	40/8	40/8	40/8

<sup>1</sup> Seagate recommends validating your configuration with your HBA/RAID controller manufacturer to ensure full capacity capabilities.

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