



# IRONWOLF

NAS



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.<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>

**Rotational Vibration (RV) mitigation.** 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 10 TB.** More capacity options mean 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.

<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> Included on 4, 6, 8 and 10 TB models.



| Specifications                                 | 10 TB <sup>1</sup> | 8 TB <sup>1</sup> | 6 TB <sup>1</sup> | 4 TB <sup>1</sup> | 3 TB <sup>1</sup> | 2 TB <sup>1</sup> | 1 TB <sup>1</sup> |
|--|--------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|
| Standard Model Numbers                         | ST1000VN0004       | ST8000VN0022      | ST6000VN0033      | ST4000VN0008      | ST3000VN0007      | ST2000VN0004      | ST1000VN0002      |
| Interface                                      | SATA 6 Gb/s        | SATA 6 Gb/s       | SATA 6 Gb/s       | SATA 6 Gb/s       | SATA 6 Gb/s       | SATA 6 Gb/s       | SATA 6 Gb/s       |
| <b>Features and Performance</b>                |                    |                   |                   |                   |                   |                   |                   |
| Number of Drive Bays Supported                 | 1 to 8             | 1 to 8            | 1 to 8            | 1 to 8            | 1 to 8            | 1 to 8            | 1 to 8            |
| Multi-User Technology (TB/yr)                  | 180                | 180               | 180               | 180               | 180               | 180               | 180               |
| Rotational Vibration (RV) Sensors              | Yes                | Yes               | Yes               | Yes               | No                | No                | No                |
| IronWolf Health Management <sup>2</sup>        | Yes                | Yes               | Yes               | Yes               | No                | No                | No                |
| Dual-Plane Balance                             | Yes                | Yes               | Yes               | Yes               | Yes               | Yes               | Yes               |
| Error Recovery Control                         | Yes                | Yes               | Yes               | Yes               | Yes               | Yes               | Yes               |
| Max Sustained Data Rate OD (MB/s)              | 210                | 210               | 210               | 180               | 180               | 180               | 180               |
| Spindle Speed (RPM)                            | 7,200              | 7,200             | 7,200             | 5,900             | 5,900             | 5,900             | 5,900             |
| Cache (MB)                                     | 256                | 256               | 256               | 64                | 64                | 64                | 64                |
| <b>Reliability/Data Integrity</b>              |                    |                   |                   |                   |                   |                   |                   |
| Load/Unload Cycles <sup>3</sup>                | 600,000            | 600,000           | 600,000           | 600,000           | 600,000           | 600,000           | —                 |
| Non-recoverable Read Errors per Bits Read, Max | 1 per 10E15        | 1 per 10E15       | 1 per 10E15       | 1 per 10E14       | 1 per 10E14       | 1 per 10E14       | 1 per 10E14       |
| Power-On Hours (per year)                      | 8,760              | 8,760             | 8,760             | 8,760             | 8,760             | 8,760             | 8,760             |
| Workload Rate Limit (WRL) (TB/year)            | 180                | 180               | 180               | 180               | 180               | 180               | 180               |
| Mean Time Between Failures (MTBF) (hours)      | 1M                 | 1M                | 1M                | 1M                | 1M                | 1M                | 1M                |
| Warranty, Limited (years)                      | 3                  | 3                 | 3                 | 3                 | 3                 | 3                 | 3                 |
| <b>Power Management</b>                        |                    |                   |                   |                   |                   |                   |                   |
| Startup Current, Typical (12 V,A)              | 1.8                | 1.8               | 1.8               | 1.8               | 2.0               | 2.0               | 1.2               |
| Average Operating Power (W)                    | 7.8                | 8.8               | 8.1               | 4.8               | 4.8               | 4.3               | 3.76              |
| Idling Average (W)                             | 5.0                | 7.6               | 7.2               | 3.95              | 4.8               | 3.56              | 2.5               |
| Standby Mode/Sleep Mode, Typical (W)           | 0.8/0.8            | 0.6/0.6           | 0.6/0.6           | 0.5/0.5           | 0.5/0.5           | 0.5/0.5           | 0.5/0.5           |
| Voltage Tolerance (5V)                         | ±5%                | ±5%               | ±5%               | ±5%               | ±5%               | ±5%               | ±5%               |
| Voltage Tolerance (12V)                        | ±10%               | ±10%              | ±10%              | ±10%              | ±10%              | ±10%              | ±10%              |
| <b>Environmental</b>                           |                    |                   |                   |                   |                   |                   |                   |
| <b>Temperature (°C)</b>                        |                    |                   |                   |                   |                   |                   |                   |
| Operating (ambient, min)                       | 5                  | 5                 | 5                 | 5                 | 5                 | 5                 | 5                 |
| Operating (drive case, max) <sup>4</sup>       | 70                 | 70                | 70                | 70                | 70                | 70                | 70                |
| Non-operating (ambient, min)                   | -40                | -40               | -40               | -40               | -40               | -40               | -40               |
| Non-operating (ambient, max)                   | 70                 | 70                | 70                | 70                | 70                | 70                | 70                |
| Halogen-free                                   | Yes                | Yes               | Yes               | Yes               | Yes               | Yes               | Yes               |
| Shock, Operating/Non-operating: 2 ms (max, Gs) | 70/250             | 70/250            | 70/250            | 80/300            | 80/300            | 80/300            | 80/300            |
| <b>Acoustics</b>                               |                    |                   |                   |                   |                   |                   |                   |
| Idle (typical, bels) <sup>5</sup>              | 2.8                | 2.7               | 2.7               | 2.3               | 2.3               | 1.9               | 2.1               |
| Operating (typical, bels)                      | 3.2                | 2.8               | 2.8               | 2.5               | 2.5               | 2.1               | 2.3               |
| <b>Physical</b>                                |                    |                   |                   |                   |                   |                   |                   |
| Height (mm/in, max)                            | 26.11/1.028        | 26.11/1.028       | 26.11/1.028       | 26.11/1.028       | 26.11/1.028       | 26.11/1.028       | 20.17/0.795       |
| Width (mm/in, max)                             | 101.85/4.01        | 101.85/4.01       | 101.85/4.01       | 101.85/4.01       | 101.85/4.01       | 101.85/4.01       | 101.85/4.01       |
| Depth (mm/in, max)                             | 146.99/5.787       | 146.99/5.787      | 146.99/5.787      | 146.99/5.787      | 146.99/5.787      | 146.99/5.787      | 146.99/5.787      |
| Weight (g/lb, typical)                         | 705/1.55           | 780/1.72          | 705/1.55          | 610/1.345         | 610/1.345         | 535/1.18          | 415/0.915         |
| Carton Unit Quantity                           | 20                 | 20                | 20                | 20                | 20                | 20                | 25                |
| Cartons per Pallet / Cartons per Layer         | 40/8               | 40/8              | 40/8              | 40/8              | 40/8              | 40/8              | 40/8              |

<sup>1</sup> One terabyte, or TB, equals one trillion bytes when referring to drive capacity.

<sup>2</sup> Only available on select NAS enclosures. Models may vary. Please contact your Seagate sales representative for further information.

<sup>3</sup> Load/Unload tested to 600,000 cycles.

<sup>4</sup> Seagate does not recommend operating at sustained case temperatures above 60°C. Operating at higher temperatures will reduce useful life of the product.

<sup>5</sup> Idle measured in Idle1 state.