



# 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 with 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

**Optimized for NAS with AgileArray™** AgileArray is built for dual-plane balancing and RAID optimization in multi-bay environments with the most advanced power management possible.

**High performance means no lag times** or downtime for users during high traffic time for the NAS. Seagate leads the competition with the highest performance in NAS-class drives.<sup>1</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>2</sup>

**Range of capacities up to 10TB.** More capacity options mean more choices that will fit within the budget. Seagate provides a scalable solution for any NAS use-case scenario.

**Get ahead with more cache.** IronWolf provides high-cache options allowing your NAS to serve data faster.

**Do more with multi-user technology.** Enables user workload rate of 180TB/year. Multiple users can confidently upload and download data to the NAS server, knowing it can handle the workload, whether you're a creative professional or small business.

**Designed for always on, always accessible 24x7 performance.** Access your data on your NAS any time, remotely or on site.

**1M hours MTBF, 3-year limited warranty** represents an improved total cost of ownership (TCO) with reduced maintenance costs.

<sup>1</sup> Performance may vary depending on user's hardware configuration and operating system.

<sup>2</sup> Included on 4, 6, 8 and 10TB models.



| Specifications                                | 10TB <sup>1</sup> | 8TB <sup>1</sup> | 7TB <sup>1</sup> | 6TB <sup>1</sup> | 4TB <sup>1</sup> | 3TB <sup>1</sup> | 2TB <sup>1</sup> | 1TB <sup>1</sup> |
|---|-------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|
| Standard Model Numbers                        | ST10000VN0004     | ST8000VN0022     | ST7000VN0002     | ST6000VN0041     | ST4000VN008      | ST3000VN007      | ST2000VN004      | ST1000VN002      |
| Interface                                     | SATA 6Gb/s        | SATA 6Gb/s       | SATA 6Gb/s       | SATA 6Gb/s       | SATA 6Gb/s       | SATA 6Gb/s       | SATA 6Gb/s       | SATA 6Gb/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           | 1 to 8           |
| Multi-User Technology (TB/yr)                 | 180               | 180              | 180              | 180              | 180              | 180              | 180              | 180              |
| Rotational Vibration (RV) Sensors             | Yes               | Yes              | Yes              | Yes              | Yes              | No               | No               | No               |
| Dual-Plane Balance                            | Yes               | Yes              | Yes              | Yes              | Yes              | Yes              | Yes              | Yes              |
| Error Recovery Control                        | Yes               | Yes              | Yes              | Yes              | Yes              | Yes              | Yes              | Yes              |
| Max Sustained Data Transfer Rate OD (MB/s)    | 210               | 210              | 210              | 195              | 180              | 180              | 180              | 180              |
| Spindle Speed (RPM)                           | 7200              | 7200             | 7200             | 7200             | 5900             | 5900             | 5900             | 5900             |
| Cache (MB)                                    | 256               | 256              | 256              | 128              | 64               | 64               | 64               | 64               |
| <b>Reliability/Data Integrity</b>             |                   |                  |                  |                  |                  |                  |                  |                  |
| Load/Unload Cycles <sup>2</sup>               | 600,000           | 600,000          | 600,000          | 600,000          | 600,000          | 600,000          | 600,000          | 600,000          |
| Nonrecoverable Read Errors per Bits Read, Max | 1 per 10E15       | 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)                     | 8760              | 8760             | 8760             | 8760             | 8760             | 8760             | 8760             | 8760             |
| Workload Rate Limit (WRL) (TB/year)           | 180               | 180              | 180              | 180              | 180              | 180              | 180              | 180              |
| Mean Time Between Failures (MTBF) (hours)     | 1M                | 1M               | 1M               | 1M               | 1M               | 1M               | 1M               | 1M               |
| Warranty, Limited (years)                     | 3                 | 3                | 3                | 3                | 3                | 3                | 3                | 3                |
| <b>Power Management</b>                       |                   |                  |                  |                  |                  |                  |                  |                  |
| Startup Current, Typical (12V,A)              | 1.8               | 2.0              | 2.0              | 2.0              | 2.0              | 2.0              | 2.0              | 1.2              |
| Average Operating Power (W)                   | 6.8               | 9.0              | 9.0              | 9.0              | 4.8              | 5.6              | 5.0              | 3.6              |
| Idle Average (W)                              | 4.42              | 7.2              | 7.2              | 7.2              | 3.95             | 4.9              | 3.7              | 2.5              |
| Standby Mode/Sleep Mode, Typical (W)          | 0.8/0.8           | 0.6/0.6          | 0.6/0.6          | 0.6/0.6          | 0.5/0.5          | 0.6/0.6          | 0.8/0.8          | 0.8/0.8          |
| Voltage Tolerance (5V)                        | ±5%               | ±5%              | ±5%              | ±5%              | ±5%              | ±5%              | ±5%              | ±5%              |
| Voltage Tolerance (12V)                       | ±10%              | ±10%             | ±10%             | ±10%             | ±10%             | ±10%             | ±10%             | ±10%             |
| <b>Environmental</b>                          |                   |                  |                  |                  |                  |                  |                  |                  |
| Temperature (°C)                              |                   |                  |                  |                  |                  |                  |                  |                  |
| Operating (ambient, min)                      | 5                 | 5                | 5                | 5                | 5                | 5                | 5                | 5                |
| Operating (drive case, max) <sup>3</sup>      | 70                | 70               | 70               | 70               | 70               | 70               | 70               | 70               |
| Nonoperating (ambient, min)                   | -40               | -40              | -40              | -40              | -40              | -40              | -40              | -40              |
| Nonoperating (ambient, max)                   | 70                | 70               | 70               | 70               | 70               | 70               | 70               | 70               |
| Halogen Free                                  | Yes               | Yes              | Yes              | Yes              | Yes              | Yes              | Yes              | Yes              |
| Shock, Operating/Nonoperating: 2ms (max, Gs)  | 70/250            | 70/250           | 70/250           | 70/250           | 80/300           | 80/300           | 80/300           | 80/300           |
| <b>Acoustics</b>                              |                   |                  |                  |                  |                  |                  |                  |                  |
| Idle (typical, bels) <sup>4</sup>             | 2.8               | 2.7              | 2.7              | 2.7              | 2.3              | 2.3              | 1.9              | 2.1              |
| Operating (typical, bels)                     | 3.2               | 2.8              | 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      | 26.11/1.028      | 20.17/0.795      |
| Width (mm/in, max)                            | 101.85/4.01       | 101.6/4.010      | 101.6/4.010      | 101.6/4.010      | 101.6/4.010      | 101.6/4.010      | 101.6/4.010      | 101.6/4.010      |
| 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     | 146.99/5.787     |
| Weight (g/lb, typical)                        | 650/1.433         | 780/1.72         | 780/1.72         | 780/1.72         | 610/1.345        | 610/1.345        | 535/1.18         | 415/0.915        |
| Carton Unit Quantity                          | 20                | 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             | 40/8             |

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

2 Load/Unload tested to 600,000 cycles.

3 Seagate does not recommend operating at sustained case temperatures above 60°C. Operating at higher temperatures will reduce useful life of the product.

4 Idle measured in Idle1 state.

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