# IRONWOLF PRO
## NAS

**SEAGATE**

# 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 24×7 performance that can handle multi-drive environments across a wide range of capacities.

**12TB**
IronWolf Pro
ST12000NE0007

## Best-Fit Applications

- 1- to 16-bay network attached storage (NAS)
- Backup, archiving and disaster recovery
- On-premise private cloud
- Virtual storage

## Rescue
### DATA RECOVERY SERVICES

# 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.[1]

**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.[2]

**Seagate® Rescue Data Recovery.[3]** 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.[3]

**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 24×7 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.

1 Contact your Seagate sales representative for further information.

2 Performance may vary depending on user's hardware configuration and operating system.

3 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[1] | ST12000NE0007 | ST10000NE0004 | ST8000NE0004 |
| Interface | SATA 6Gb/s | SATA 6Gb/s | SATA 6Gb/s |
| **Features** | | | |
| 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[2] | Yes | Yes | Yes |
| Cache (MB) | 256 | 256 | 256 |
| **Reliability/Data Integrity** | | | |
| Mean Time Between Failures (MTBF, hours) | 1,200,000 | 1,200,000 | 1,200,000 |
| Reliability Rating @ Full 24×7 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 (24×7) | 8760 | 8760 | 8760 |
| Sector Size (Bytes per Logical Sector) | 512E | 512E | 512E |
| Rescue Services[3] | Yes | Yes | Yes |
| Limited Warranty (years) | 5 | 5 | 5 |
| **Performance** | | | |
| 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[2]) | 12.5 | 12.5 | 12.5 |
| **Power Consumption** | | | |
| 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 |
| **Environmental/Temperature** | | | |
| 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 |
| **Environmental/Acoustics** | | | |
| Vibration, Nonoperating: 10Hz to 500Hz (Grms) | 2.27 | 2.27 | 2.27 |
| **Environmental/Shock** | | | |
| Shock, Operating 2ms (Read/Write) (Gs) | 70/40Gs | 70/40Gs | 70/40Gs |
| Shock, Nonoperating, 1ms and 2ms (Gs) | 250 | 250 | 250 |
| **Physical** | | | |
| 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 |

1 2TB and 4TB models coming soon. For immediate needs, please see Enterprise NAS HDD.

2 Supports Hotplug operation per Serial ATA Revision 2.6 specification.

3 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.

# IRONWOLF PRO
NAS

| Specifications | 6TB | 4TB | 2TB |
|---|---|---|---|
| Standard Model Number[1] | ST6000NE0023 | ST4000NE0025 | ST2000NE0025 |
| Interface | SATA 6Gb/s | SATA 6Gb/s | SATA 6Gb/s |
| **Features** | | | |
| 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[2] | Yes | Yes | Yes |
| Cache (MB) | 256 | 128 | 128 |
| **Reliability/Data Integrity** | | | |
| Mean Time Between Failures (MTBF, hours) | 1,200,000 | 1,200,000 | 1,200,000 |
| Reliability Rating @ Full 24×7 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 (24×7) | 8760 | 8760 | 8760 |
| Sector Size (Bytes per Logical Sector) | 512E | 512E | 512E |
| Rescue Services[3] | Yes | Yes | Yes |
| Limited Warranty (years) | 5 | 5 | 5 |
| **Performance** | | | |
| 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[2]) | 12.5 | 12.5 | 12.5 |
| **Power Consumption** | | | |
| 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 |
| **Environmental/Temperature** | | | |
| 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 |
| **Environmental/Acoustics** | | | |
| Vibration, Nonoperating: 10Hz to 500Hz (Grms) | 3 | 3 | 3 |
| **Environmental/Shock** | | | |
| Shock, Operating 2ms (Read/Write) (Gs) | 70/40Gs | 70/40Gs | 70/40Gs |
| Shock, Nonoperating, 1ms and 2ms (Gs) | 250 | 300 | 300 |
| **Physical** | | | |
| 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 |

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