ARCTIC ACOTH00001A

ARCTIC M2 Pro M.2 2280 SSD Heatsink Cooler Instruction Manual

Model: ACOTH00001A

1. Introduction

The ARCTIC M2 Pro is a passive heatsink cooler designed for M.2 2280 SSDs. It enhances SSD performance and longevity by efficiently dissipating heat, preventing thermal throttling during intensive operations. This manual provides instructions for installation, operation, and maintenance of your ARCTIC M2 Pro.

Image 1.1: The ARCTIC M2 Pro heatsink cooler, black variant, shown with a blue thermal pad visible on one end.

2. What's in the Box

Verify that all components are present before proceeding with installation.

- ARCTIC M2 Pro Heatsink (Black)
- ARCTIC TP-3 Thermal Pads (pre-applied or included separately)

3. Setup & Installation

The ARCTIC M2 Pro is designed for easy installation on M.2 2280 SSDs, compatible with both single-sided and double-sided SSDs, as well as gaming consoles like the PlayStation 5.

3.1 Components Overview

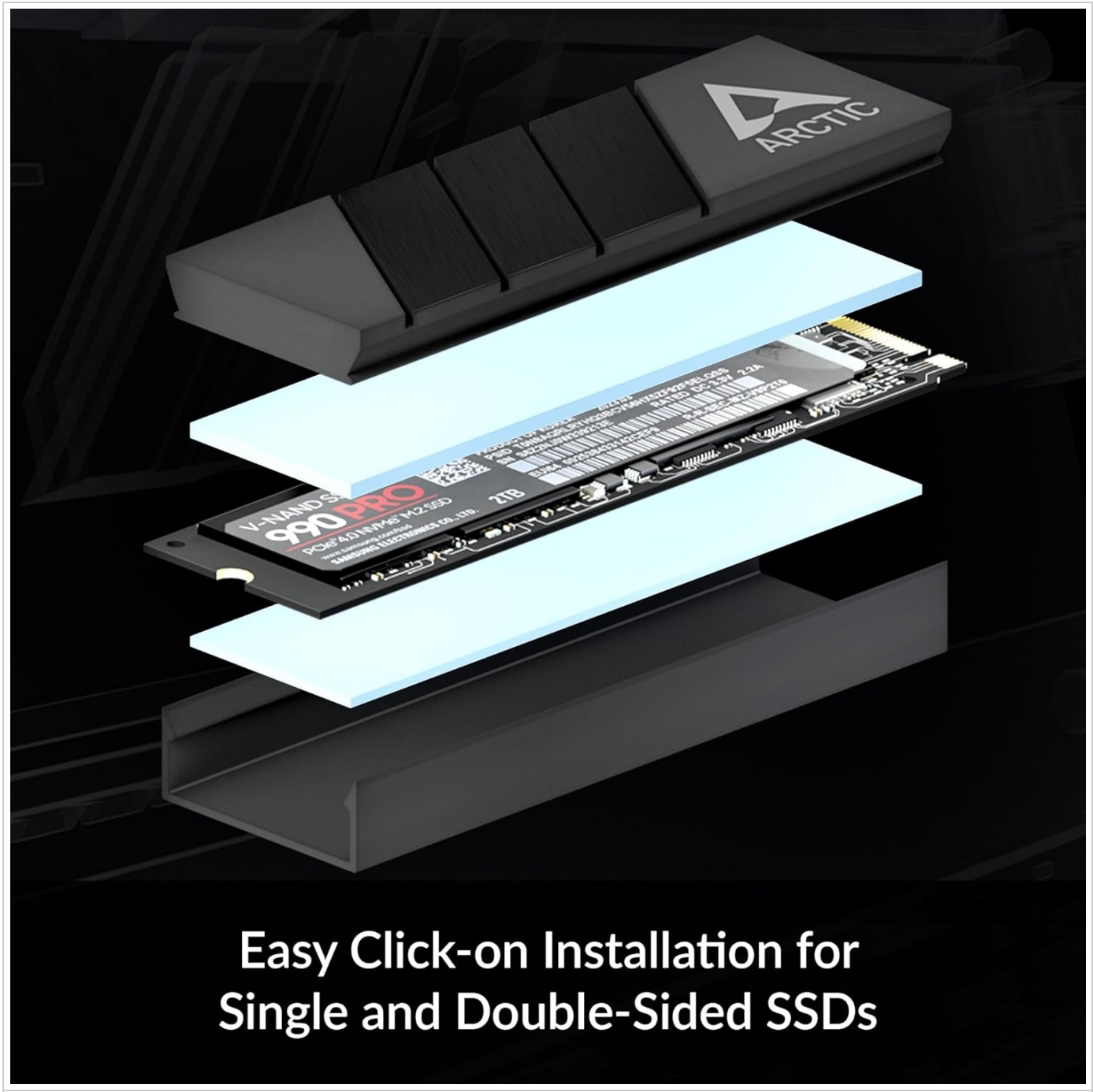


Image 3.1: Exploded view showing the ARCTIC M2 Pro heatsink, an M.2 SSD, and two thermal pads, illustrating the assembly order.

The heatsink consists of two main parts that sandwich the M.2 SSD. Two precisely cut ARCTIC TP-3 thermal pads are included to ensure optimal contact and heat transfer from the SSD components (controller, RAM, NAND) to the heatsink.

3.2 Installation Steps

1. **Prepare your M.2 SSD:** Ensure your M.2 2280 SSD is clean and free of any dust or debris. If your SSD has a pre-installed label or thin sticker, it is generally recommended to remove it for better thermal contact, though some thin labels may be left if they do not interfere with thermal pad contact.
2. **Apply Thermal Pads:** Carefully peel off the protective films from both sides of the ARCTIC TP-3 thermal pads. Place one thermal pad onto the bottom heatsink piece. Place the M.2 SSD onto this thermal pad. Place the second thermal pad on top of the M.2 SSD, ensuring it covers the main components.

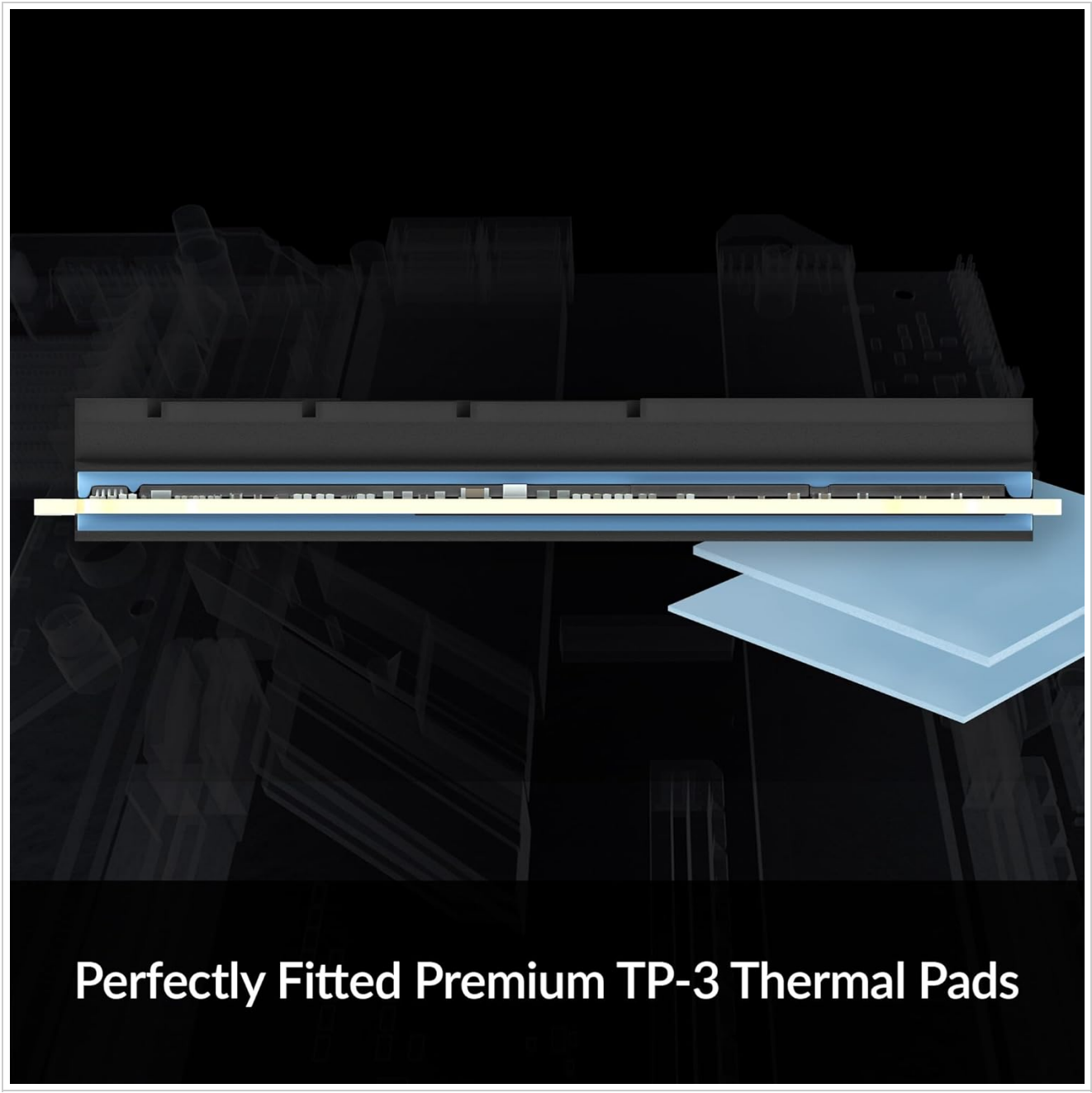


Image 3.2: Cross-section diagram illustrating the precise fit of ARCTIC TP-3 thermal pads between the heatsink and the M.2 SSD components.

3. **Assemble the Heatsink:** Align the top heatsink piece over the M.2 SSD and the thermal pads. Gently press the top and bottom pieces together until they click into place. The design utilizes a click mechanism, eliminating the need for screws or rubber bands for assembly.
4. **Install into System:** Insert the assembled M.2 SSD with the ARCTIC M2 Pro heatsink into the M.2 slot on your motherboard or gaming console (e.g., PlayStation 5). Secure it with the standard M.2 screw provided by your system.

Image 3.3: The ARCTIC M2 Pro heatsink cooler installed on an M.2 SSD within a PlayStation 5 console's expansion slot.

Note: Ensure proper alignment during the click-on installation to avoid damaging the SSD or heatsink. The thermal pads are designed to conform to component height differences, providing optimal contact.

4. Operation

The ARCTIC M2 Pro operates as a passive cooling solution. Once installed, it continuously dissipates heat generated by your M.2 SSD to the surrounding environment. This process helps maintain lower operating temperatures, which is crucial for sustained performance and the longevity of your SSD.

4.1 Performance Benefits

- **Reduced Thermal Throttling:** High temperatures can cause SSDs to reduce their performance (thermal throttling) to prevent damage. The M2 Pro helps mitigate this, allowing your SSD to operate at its peak performance for longer durations.
- **Improved Data Transfer Speeds:** By keeping the SSD cooler, the M2 Pro ensures consistent high-speed data read and write operations, especially during demanding tasks like large file transfers or gaming.
- **Extended SSD Lifespan:** Operating at lower temperatures can contribute to a longer overall lifespan for your M.2

SSD.

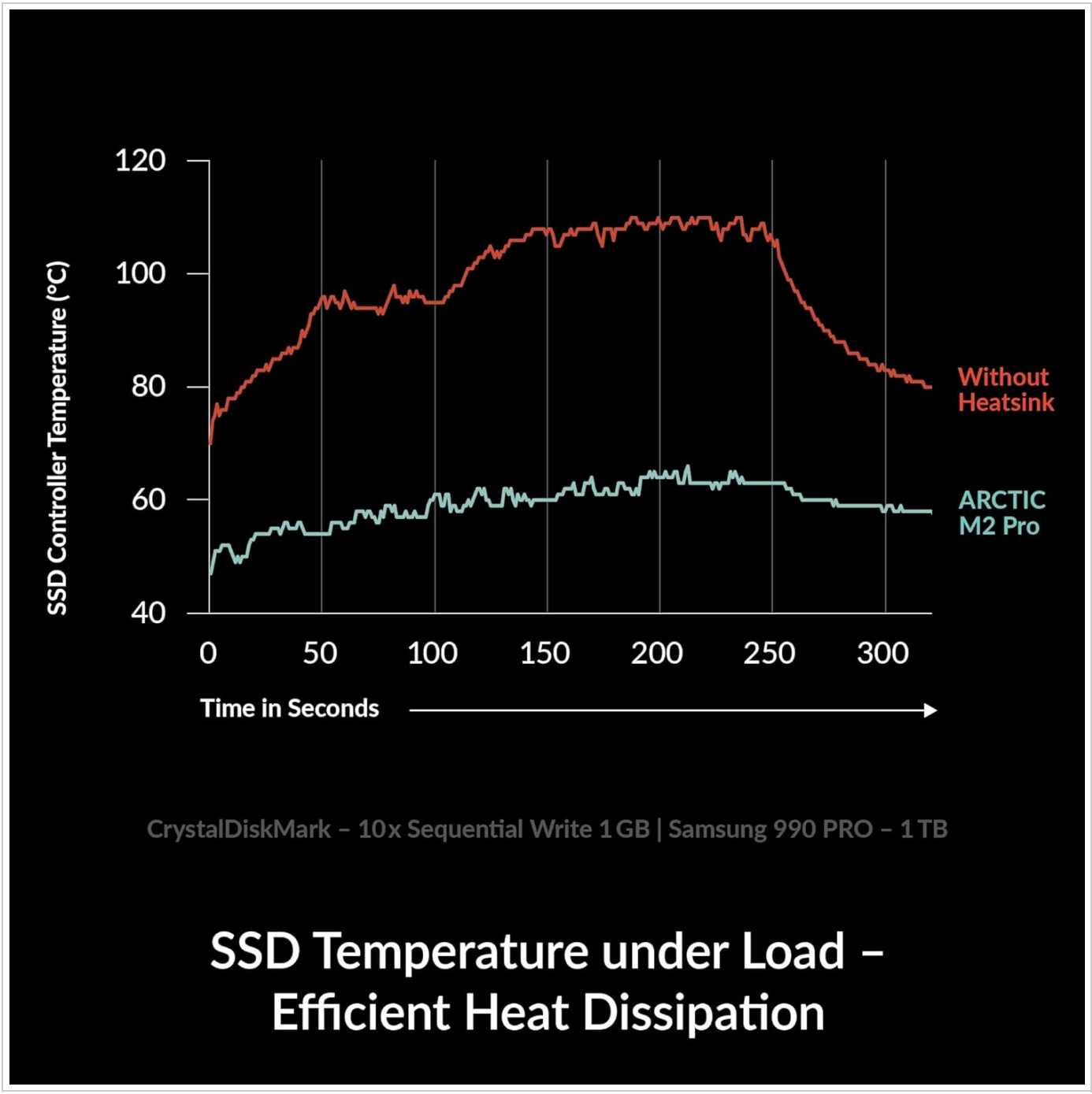


Image 4.1: A line graph comparing SSD controller temperature over time during sequential write operations, showing significantly lower temperatures with the ARCTIC M2 Pro heatsink compared to without a heatsink.

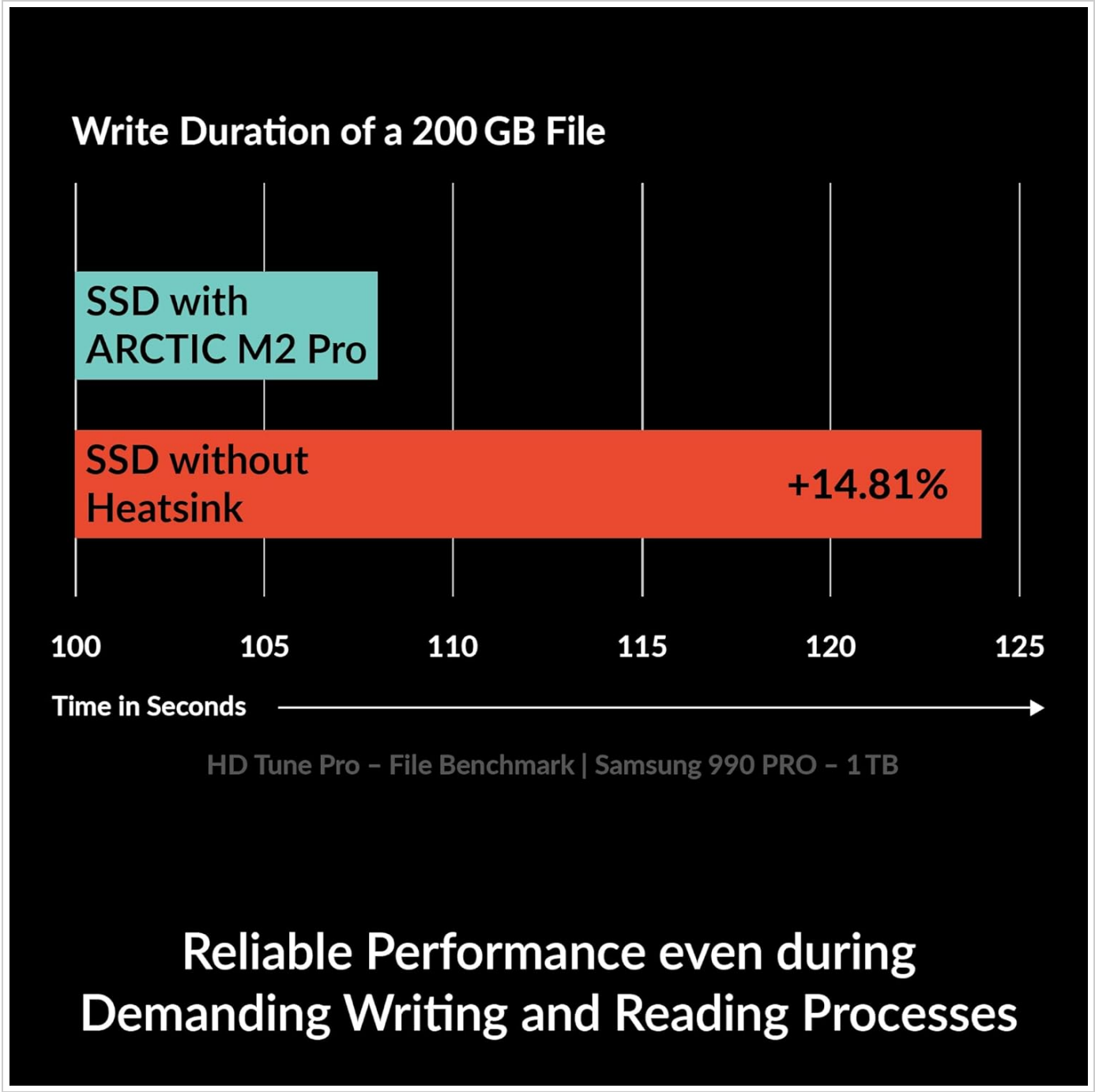


Image 4.2: A bar chart illustrating the reduced write duration for a 200 GB file when using an SSD with the ARCTIC M2 Pro heatsink, indicating improved performance.

5. Maintenance

The ARCTIC M2 Pro heatsink requires minimal maintenance due to its passive design.

- **Dust Removal:** Periodically inspect the heatsink for dust accumulation. Use compressed air or a soft brush to gently remove any dust from the fins to ensure optimal airflow and heat dissipation.
- **Thermal Pad Integrity:** The included ARCTIC TP-3 thermal pads are designed for long-term use. If the heatsink is removed and reinstalled, inspect the thermal pads for any damage or degradation. If necessary, replace them with new ARCTIC TP-3 thermal pads to maintain effective heat transfer.

6. Troubleshooting

This section addresses common issues you might encounter with the ARCTIC M2 Pro heatsink.

- **Heatsink does not close properly:**
  - Ensure the M.2 SSD is correctly seated between the thermal pads and within the bottom heatsink piece.
  - Verify that the thermal pads are correctly positioned and not overlapping.
  - For double-sided SSDs, ensure the thermal pads are thin enough to allow the heatsink to close without excessive force. The ARCTIC TP-3 pads are designed for this purpose. If using third-party pads, ensure their thickness is appropriate.
  - Check for any obstructions in the M.2 slot or around the SSD.
- **SSD temperatures are not improving significantly:**
  - Confirm that the thermal pads are making full and even contact with both the SSD components and the heatsink. Re-open and re-seat if necessary.
  - Ensure the protective films were removed from both sides of the thermal pads.
  - Check the overall airflow within your PC case or console. Poor case airflow can limit the effectiveness of any passive heatsink.
  - Verify that the M.2 SSD is properly installed and recognized by your system.
- **Heatsink interferes with other components:**
  - The ARCTIC M2 Pro has a low-profile design. However, in some compact systems or motherboards with crowded M.2 slots, minor clearance issues might occur. Check your motherboard or console's manual for M.2 slot clearance specifications.

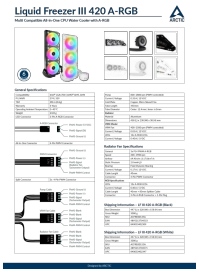
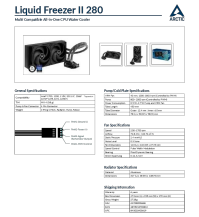
7. Specifications

Feature	Detail
Model Number	ACOTH00001A
Brand	ARCTIC
Compatibility	M.2 2280 SSDs (Single- and Double-Sided), PlayStation 5
Heatsink Material	Aluminum
Thermal Interface Material	ARCTIC TP-3 Thermal Pads
Product Dimensions (L x W x H)	2.9" x 0.9" x 0.4" (73.66mm x 22.86mm x 10.41mm)
Item Weight	40.5 Grams (1.43 ounces)

8. Warranty & Support

For warranty information and technical support, please refer to the official ARCTIC website or contact ARCTIC customer service directly. Details regarding warranty periods and support procedures can typically be found on the product support page for the ARCTIC M2 Pro.
ARCTIC Official Website: www.arctic.ac

Related Documents - ACOTH00001A

	ARCTIC Freezer 36 CO CPU Cooler - Online Manual and Installation Guide Comprehensive online manual and installation guide for the ARCTIC Freezer 36 CO CPU Cooler. Learn about preparation, installation, and access video guides. Available in multiple languages.
	ARCTIC Liquid Freezer III 420 A-RGB: High-Performance CPU Water Cooler Detailed specifications and features of the ARCTIC Liquid Freezer III 420 A-RGB All-in-One CPU Water Cooler, including compatibility, performance data, dimensions, and shipping information.
	ARCTIC Liquid Freezer II 240 A-RGB Online Manual Access the online manual for the ARCTIC Liquid Freezer II 240 A-RGB CPU cooler. Find preparation steps, installation guides, and video tutorials for this A-RGB liquid cooler.
	ARCTIC Liquid Freezer III 240 AIO CPU Cooler: Specifications and Compatibility Detailed specifications, compatibility, and performance data for the ARCTIC Liquid Freezer III 240 All-in-One CPU Water Cooler, including fan speeds, dimensions, and shipping information.
	ARCTIC Liquid Freezer II 280 CPU Water Cooler Specifications and Features Detailed specifications, features, and shipping information for the ARCTIC Liquid Freezer II 280, a multi-compatible all-in-one CPU water cooler. Includes technical data on pump, fans, radiator, and compatibility.
	ARCTIC Liquid Freezer III 240 Black Online Manual and Product Information Find the online manual, preparation guides, installation instructions, and video tutorials for the ARCTIC Liquid Freezer III 240 Black CPU cooler. Available in multiple languages.