ARCTIC ACFAN00317A

ARCTIC P14 Pro PST 140mm PWM Fan Instruction Manual

Model: ACFAN00317A

1. PRODUCT OVERVIEW

The ARCTIC P14 Pro PST is a high-performance 140mm PWM fan designed for efficient cooling in various PC configurations. It features a Fluid Dynamic Bearing for quiet operation and extended lifespan, and PWM Sharing Technology (PST) for simplified fan control and daisy-chaining.

Key Features:

- **High Static Pressure:** Optimized for use with radiators and restrictive cases, ensuring effective airflow even against resistance.

- **PWM Control with Wide Speed Range:** The fan speed can be progressively adjusted from 400 to 2500 RPM via the 4-pin PWM connection, including a 0 RPM mode below 5% PWM for silent operation.

- **Fluid Dynamic Bearing (FDB):** The self-lubricating bearing minimizes noise during operation, contributing to quiet, efficient cooling and a long, reliable service life.

- **Precise Manufacturing:** Minimal gaps, automatic balancing, and high-precision measurement noticeably reduce vibrations for quiet, efficient, and long-lasting performance.

- **New Fan Blade Design:** Redesigned rotor blades offer an optimal balance of performance and low noise, especially efficient at low speeds.
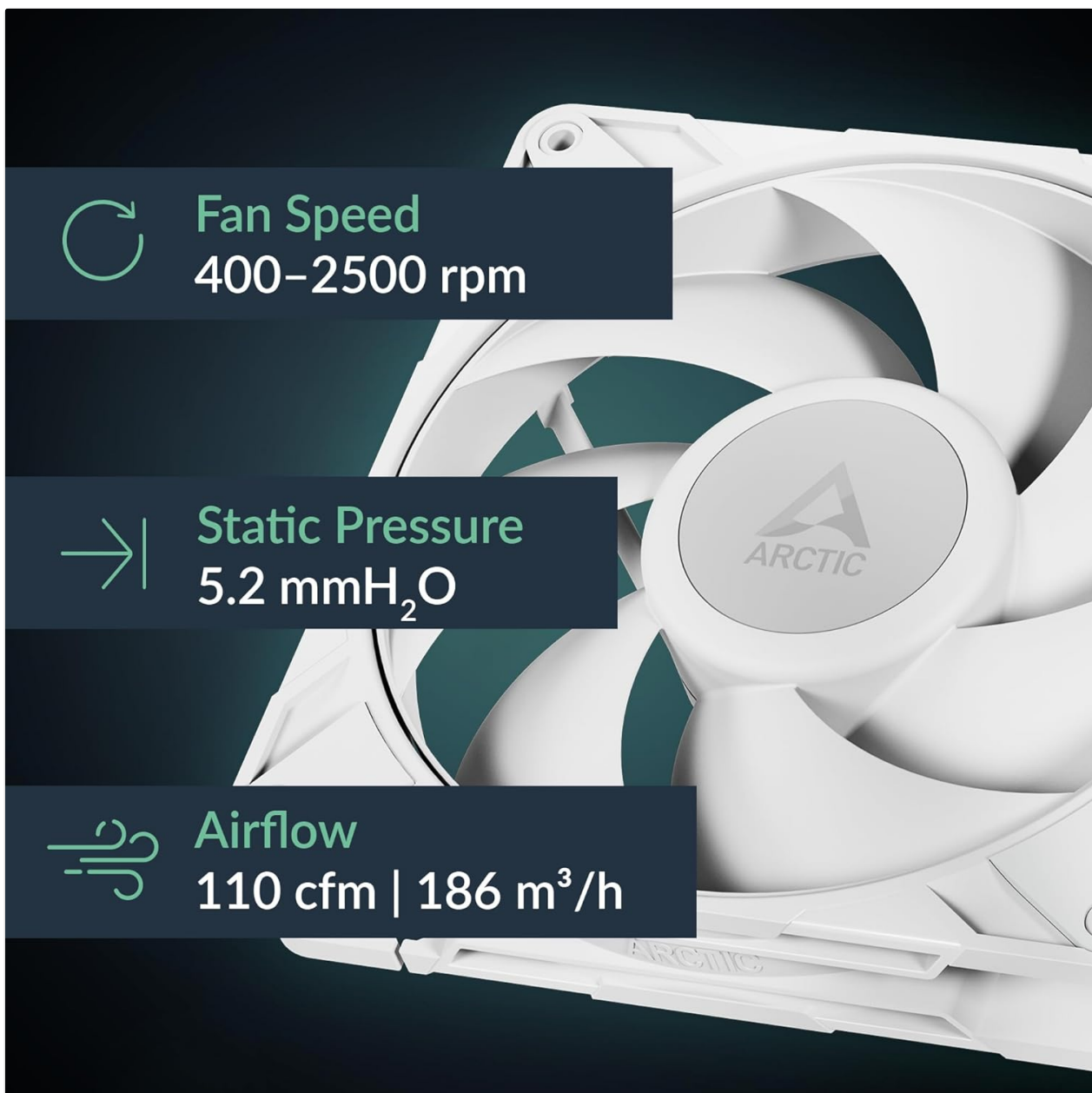
Image 1.1: ARCTIC P14 Pro PST fan highlighting its performance specifications: fan speed range, static pressure, and airflow.

2. PACKAGE CONTENTS

Verify that all components are present in the package:

- ARCTIC P14 Pro PST 140mm Fan (White)
- Mounting Screws
- Y-Cable Splitter (integrated with PST functionality)

3. INSTALLATION GUIDE

Follow these steps to properly install your ARCTIC P14 Pro PST fan:
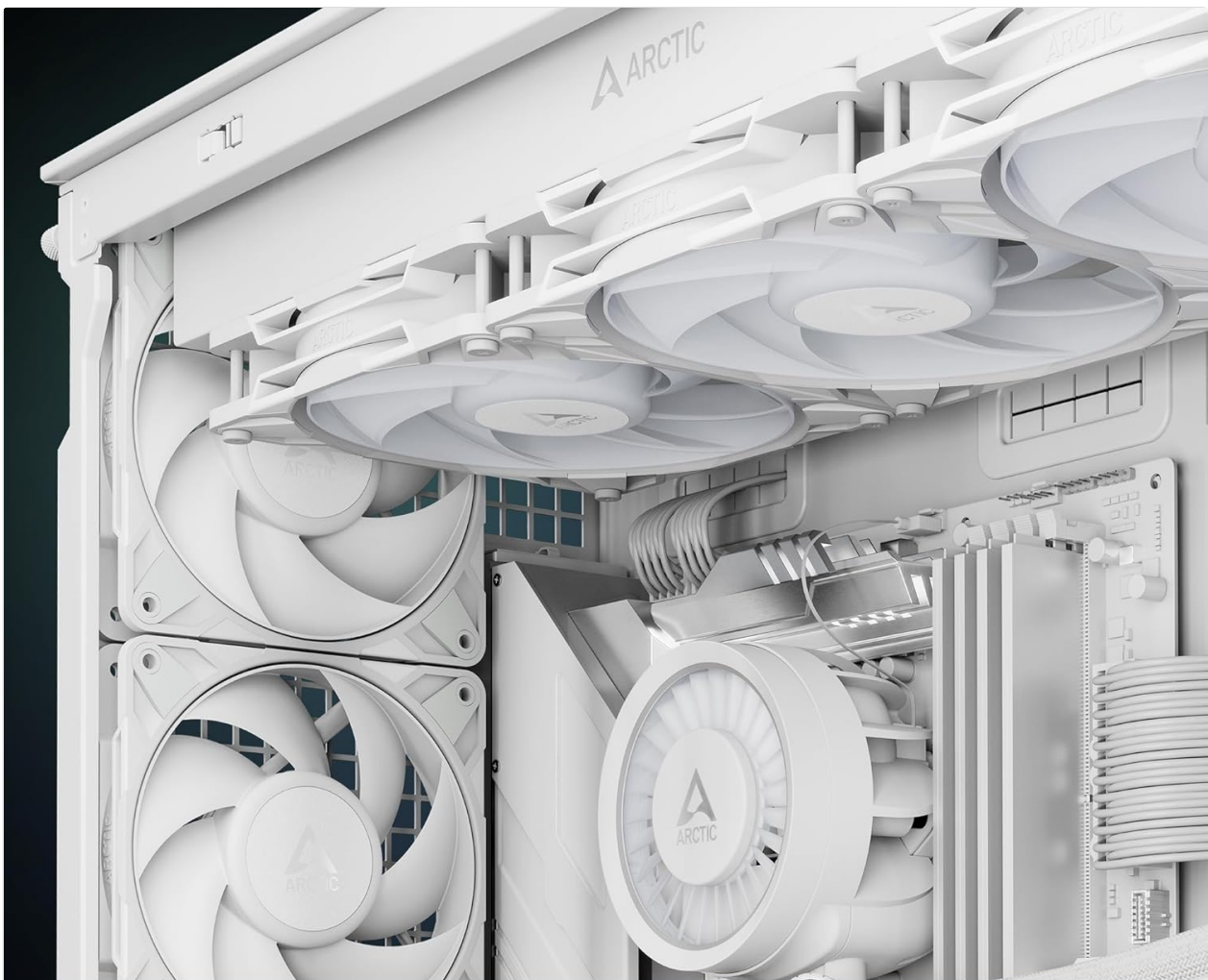
1. **Prepare your System:** Power off your computer and disconnect it from the power source. Open your PC case to access the fan mounting locations.
2. **Identify Mounting Location:** Determine where you want to install the fan (e.g., case intake/exhaust, radiator). Ensure the fan's airflow direction aligns with your cooling strategy.
3. **Mount the Fan:** Position the fan in the desired location. Use the provided mounting screws to secure the

fan to the case or radiator. Do not overtighten the screws.

4. **Connect Power and Control:** The P14 Pro PST features a 4-pin PWM connector. Connect this to an available 4-pin fan header on your motherboard.

5. **Utilize PST (PWM Sharing Technology):** If installing multiple P14 Pro PST fans, you can daisy-chain them using the integrated Y-cable splitter. Connect the first fan to the motherboard, then connect subsequent fans to the previous fan's PST connector. This allows multiple fans to be controlled by a single PWM signal from the motherboard.

Image 3.1: Illustration of daisy-chaining multiple P14 Pro PST fans using the integrated PST cables for simplified wiring and control.

Image 3.2: Example installation of ARCTIC P14 Pro PST fans within a PC case, highlighting their design for efficient performance even with high air resistance.

4. OPERATING INSTRUCTIONS

The ARCTIC P14 Pro PST fan is controlled via a 4-pin PWM signal from your motherboard. This allows for dynamic speed adjustment based on system temperature.

- **PWM Control:** The fan speed automatically adjusts between 400 RPM and 2500 RPM based on the PWM signal from your motherboard or fan controller.
- **0 RPM Mode:** For silent operation during low loads, the fan will stop completely when the PWM signal is below 5%. This feature helps conserve power and reduce noise when active cooling is not required.
- **Configuration:** Fan speed curves can typically be configured in your motherboard's BIOS/UEFI settings or through dedicated fan control software provided by your motherboard manufacturer.
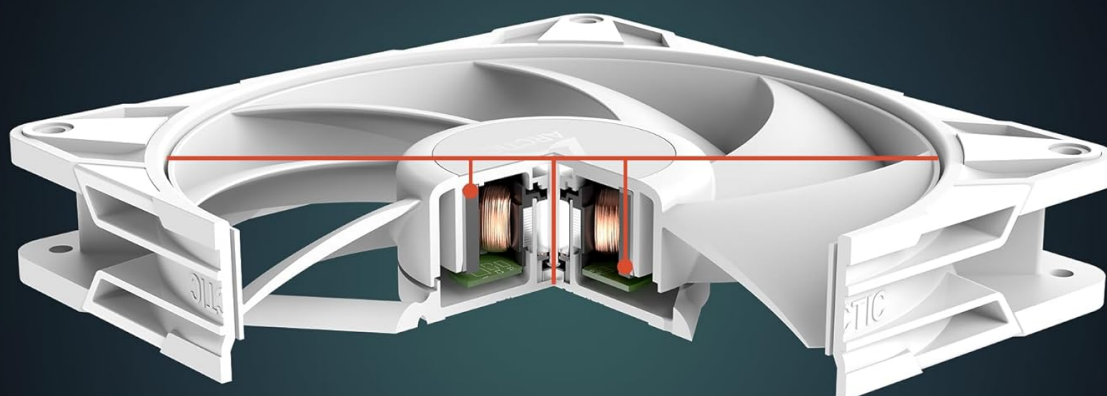
Precise Control and Reliable Protection Thanks to Server-Grade IC

Image 4.1: The fan's server-grade IC ensures precise control over fan speed and provides reliable protection for consistent performance.

5. MAINTENANCE

Regular maintenance ensures optimal performance and longevity of your fan:

- **Cleaning:** Periodically clean the fan blades and frame to remove dust buildup. Use a soft brush or compressed air. Ensure the fan is powered off before cleaning.
- **Inspection:** Check for any obstructions around the fan blades or unusual noises during operation.
- **Bearing:** The Fluid Dynamic Bearing is self-lubricating and generally requires no additional maintenance.

Image 5.1: The fan's internal design with precise machine balancing helps reduce vibrations, contributing to quieter operation and longer life.

6. TROUBLESHOOTING

If you encounter issues with your ARCTIC P14 Pro PST fan, refer to the following common problems and solutions:

Problem	Possible Cause	Solution
Fan not spinning	No power, incorrect connection, 0 RPM mode active.	Check fan cable connection to motherboard. Ensure system is under load to exit 0 RPM mode. Verify fan header is enabled in BIOS.
Fan is excessively loud	High RPM, dust buildup, loose mounting, bearing issue.	Adjust fan speed curve in BIOS/software. Clean fan blades. Ensure fan is securely mounted. If noise persists and is unusual, contact support.

Problem	Possible Cause	Solution
Poor cooling performance	Incorrect airflow direction, restricted airflow, low RPM.	Verify fan is installed with correct airflow direction. Clear any obstructions. Increase fan speed in BIOS/software.

7. TECHNICAL SPECIFICATIONS

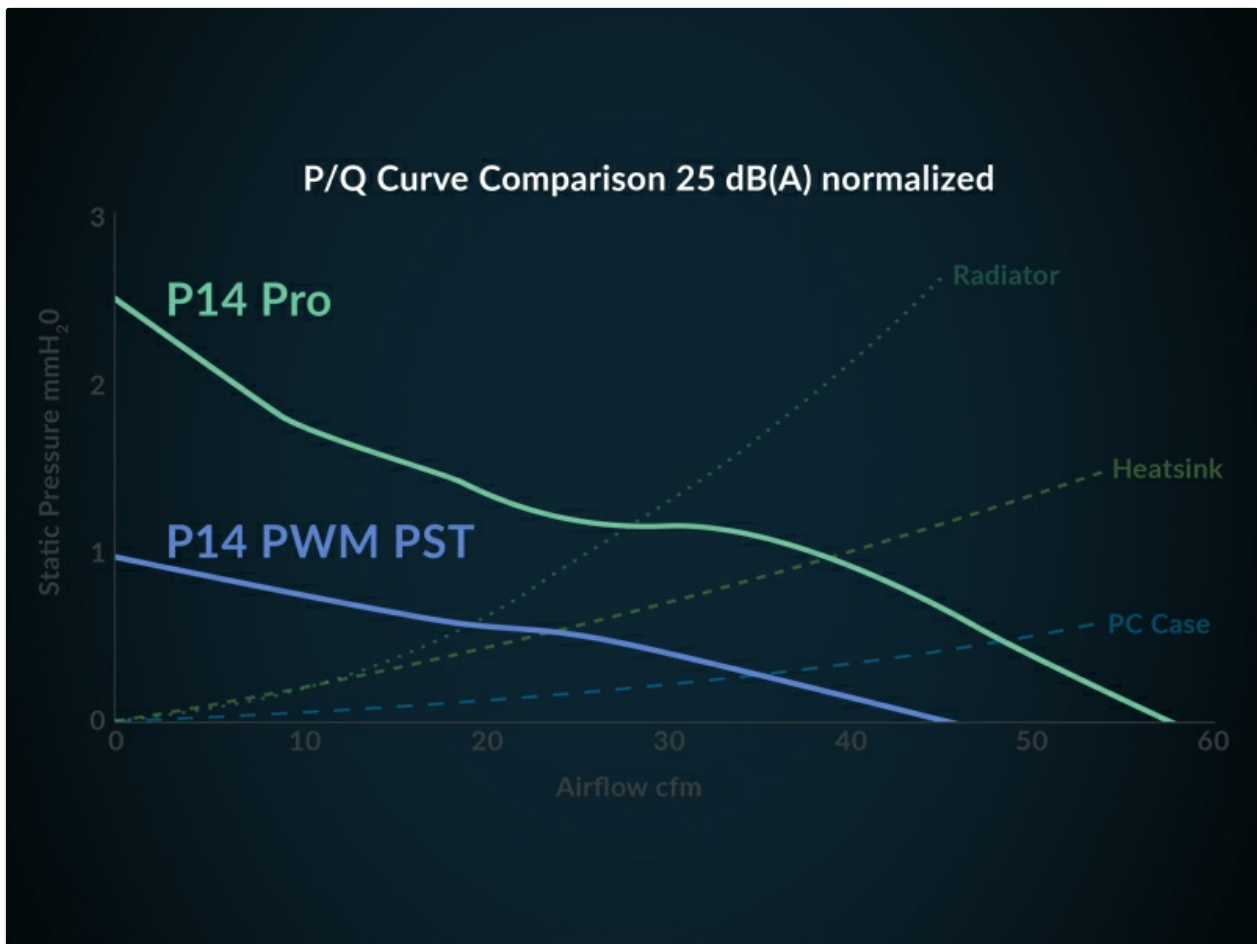| Specification	Value
Brand	ARCTIC
Model Number	ACFAN00317A
Fan Size	140 mm
Fan Speed	400 - 2500 RPM (PWM controlled)
0 RPM Mode	Yes, below 5% PWM
Static Pressure	5.2 mmH$_2$O
Airflow	110 CFM	186 m³/h
Bearing Type	Fluid Dynamic Bearing (FDB)
Power Connector	4-Pin PWM
Voltage	12 Volts
Wattage	4.2 watts
Material	Plastic
Product Dimensions	1.06 x 5.51 x 5.51 inches
Item Weight	8.5 ounces
UPC	840033403085

Image 7.1: P/Q Curve Comparison illustrating the static pressure and airflow performance of the P14 Pro fan under various load conditions.

8. WARRANTY AND SUPPORT

ARCTIC provides a limited warranty for the P14 Pro PST fan. For specific warranty terms and conditions, please refer to the official ARCTIC website or contact their customer support.

- **Manufacturer:** ARCTIC
- **Return Policy:** Typically 30 days for refund/replacement (check retailer's policy).
- **Support:** For technical assistance or warranty claims, visit the ARCTIC Store on Amazon or the official ARCTIC website.